Instructions
IN
CLINICAL MEDICINE,

Given at the London Hospital

BY THE LATE SIR ANDREW CLARK, BART., M.D., LL.D. CAMB., LL.D. ABERD., F.R.S.,
LATE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.
(*Reported for* THE LANCET.)

[WITH COLOURED PLATE.]

IV.[1]

THE TREATMENT OF FIBROID LUNG DISEASE.

GENTLEMEN,—You have seen now, firstly, a number of cases of fibroid disease of the lung, some of them pure fibroid, some of them fibroid with dilatations of the tubes, and some of them with cavities, falling under the name of "fibroid phthisis." Secondly, they are all chronic cases. Thirdly, they are non-febrile; and, lastly, there is little or no constitutional disturbance. I might add one point to this—namely, that with one exception in all the cases that you have seen the expectoration has been free from tubercle bacilli.

I propose to-day to give a rough, but sufficiently accurate, general view of the method in which such cases are to be treated by you when you enter into practice. The first observation that I make is a curious but an important one. It is, that the laws of health are not suspended because a person is sick. They may require to be modified, but they are not suspended. The laws of digestion, particularly, remain more or less the same, and so of every other system of the body; and I mention this especially, because in the treatment of acute diseases, or in the treatment of chronic diseases when they become acute, this fact which I have just mentioned to you is very often forgotten. A person with fibroid disease, say, is suddenly attacked with pneumonia, and the friends reason thus: "This patient was weak before, he is much weaker now. He will be in peril, and the way to get him through his peril safely is to feed and stimulate him well." So they will give him food sometimes every half-hour, and sometimes stimulants just as often. The result of this is very often disastrous; and it accounts for the curious paradoxical fact that if you were to divide patients with acute disease into two classes, the first class consisting of people in just sufficiently comfortable circumstances to live, and the other class of the rich and great, you will find that the mortality amongst the latter class greatly exceeds that of the mortality of the poor and those just sufficiently well to do. That is the first hint that I have to give you about the treatment of these cases. Pray remember that the laws of health are not suspended because people are sick.

The second statement I have to make to you is that there are really no fixed principles for the management of the disease. Medicine is the most unprincipled of sciences. You have to deal with every case upon its own merits, and find in the conditions of every case the laws for its own management. That is true, but only in the very strict sense, for in such a class of affections as you have just been seeing there are certain general principles of treatment which may be communicated to you and which may prove of great help to you, and which, if you will be careful not to force them unthinkingly upon every patient who comes under your notice, will be very useful to you in the exercise of your art. Now I propose to mention briefly some of the general principles which may be safely applied to the treatment of these fibroid cases with individual modifications. First of all, the great rule is to place the patient in the conditions most favourable for the promotion or the maintenance of the general health. How can I place these patients in the conditions most likely to promote and maintain the general health? Now these conditions may, according to the individual, require some really special modification. It will not do to apply to every case that comes under your notice, without modification, merely the general laws of health which apply to everybody. You would not let a highly nervous patient drink strong tea or coffee, you would not let a patient with hæmoptysis take violent exercise, and so on. Remember, therefore, to place the patient in the circumstances most likely to promote and maintain his general health.

First, there is the food. The great difficulty that you will have to contend with in these cases is to avoid giving as much food as not the patient, but the patient's friends, wish you to give him. I cannot pretend to say that I know the secret, the permanent and just secret, of the exact amount of food to be given to a patient, but I can give you a general statement which I think will help you in the exercise of your treatment of such cases. And it is this. Let the food be divided into four meals a day. Let it be simple, fresh, nourishing, digestible; and it may be arranged somewhat in this fashion: Breakfast, 8 to 9; bread and butter with eggs or fish, or fat—not lean—bacon, for cured and preserved things are not good for these patients; and, with that, half a pint of tea or coffee made with milk. Perhaps you have not been accustomed to hear of tea made with milk, but I can tell you that it is very nice and very nourishing, and almost all these fibroid cases do well with that. In almost all of them the general nutrition is impaired. Four to five hours afterwards—if you have breakfast at 8 A.M. or 9 A.M.—1 P.M. to 1.30 P.M. should be the dinner hour; the patient should have meat, bread, potatoes, vegetables, and either milk pudding or, if he can bear it, a little cooked fruit. At 4 P.M. or 5 P.M. bread and butter and tea or coffee, made with milk. At 7.30 to 8 P.M. supper—a light meal of the same kind as the dinner. And nothing more. There must be no "betweens."

Secondly comes the point of alcohol, next in importance to food. I venture to say that if the patient is equally as well without alcohol it is much better that he should be without it; but I also venture to say that it is certain that some patients suffering from fibroid phthisis may be greatly benefited by small quantities of alcohol given at the right time. What is the right time? It is certainly not between meals; it is certainly not on an empty stomach; and I entreat you to avoid either giving or assenting in the giving of alcohol in any form under such circumstances. For these cases give the alcohol which is required at dinner and at supper, and at no other time; and in these cases, also, be sure that you give no more than is really helpful to the nutrition of the patient and to the maintenance of his comfort and his general satisfaction. If you give an amount of alcohol which disturbs digestion, which disturbs the cough, dries the mouth, flushes him, and makes him uncomfortable, the smallest amount of discomfort brought about in this way becomes a great discomfort after a little time; for here I must say what I have so often said to my pupils in the London Hospital—it is not so much the big things of life, it is the little things of life that make and unmake health.

Thirdly, in addition to the alcohol, comes the clothing, and the general direction is that the clothing should be warm and changed frequently, not worn for a month for fear of catching cold, but changed at least every week.

Then comes exercise; and there are two kinds of exercise to be taken by these patients. There is general exercise, which is more or less needful to all persons—the exercise which enables the body to get rid of its dust and ashes. You know that every act of life produces a certain amount of waste which is required to be carried out of the body by the skin, the lungs, and the kidneys. Furthermore, the retention of that waste becomes a most fruitful source of manifold disease, and people who live sedentary lives and delicate people run the risk of keeping this waste stuff in their bodies and which begets the disturbances to which I have adverted. For a patient with fibroid disease it is necessary to have daily exercise—half-an-hour twice a day is no doubt enough for the mere purposes of life. But there is another kind of exercise which is desirable and sometimes most helpful. You know that whenever fibrous tissue is formed it tends to contract and to go on contracting indefinitely. You may have seen a child who has had the arm burnt: as it heals and is replaced by fibrous tissue it contracts, and after a month or two you see it very much contracted. This is exactly what takes place more or less everywhere else. And when once you see the chest sink in and watch it you will see that the contraction goes on and on, however slowly it may be. Now there is a kind of exercise which goes far to prevent that—which does, indeed, sometimes prevent it entirely—and that is the kind of exercise which gently, but

[1] For the first of these Clinical Instructions see THE LANCET of Jan. 2nd, 1892; for the second, THE LANCET of July 2nd, 1892 and for the third, THE LANCET of Jan. 7th, 1893.

more or less continuously, expands the chest. The method I use for that was formerly known here as the "stair cure." I used to require the patients, either with an old pleurisy or with a fibroid lung, to go upstairs once, or twice, or many times, according to the state of their strength and capacity for adjustment to this increased exercise. I have seen the chest enlarged about an inch within a month of beginning this stair cure. But remember also that it requires care. It used to be thought that hæmoptysis was present only in true tuberculous cases. But I have told you, and you must accept it on my evidence, that hæmoptysis occurs in these fibroid cases. You are to be wary, therefore, not to push these cases too hard; not so to push them as to bring on hæmoptysis, because, although the disease does not occur on the bloodvessels as true tuberculous disease does, yet it destroys the elasticity of the bloodvessels and makes them friable.

Another point about management of these cases is occupation. If people are wonderfully well off in life, and a member of the family falls sick, or becomes delicate, they are disposed to take him away from work on the ground that work is bad for him. I do not agree with them at all. I think that is about the biggest mistake that you will have to encounter. *Labor mitæ vita est.* Labour is the life of life. And especially is it the life of life to the delicate. And when any organ is sick it is then truer than in health that even in sickness and delicacy it is better for the organ to do what work of its own it can, provided it can do it without injury. And I can say to you from a considerable experience of tuberculous pulmonary disease, I can say with perfect confidence, that those who have done the best have usually been those who have occupied themselves the most. I never knew my own parents. They both died of phthisis. At the age of twenty-one I myself went to Madeira to die of phthisis. But I did not die, and on coming back I had the good luck to get into this great hospital, and in those days they were not very pleased to have the Scotchmen coming to London to occupy such appointments. The members of the staff had heard that I had tubercle, and they wagered 100 to 1 that I would only have the appointment six months at most. The reason given for that was that I did not eat and worked too hard. I got the appointment. Thirty-eight or thirty-nine years have gone since that time, and it is all the other doctors that are gone.[2] Only I am left here on the staff—an old gentleman—not dead yet. Forgive me for intruding this upon you, because it teaches a very important truth. Labour regulated is the life of life in every sense—physical, mental, and moral—and the next thing that I have to say is that the highest life, even with a delicate organ, lies in its discharging its functions. When you have an epileptic patient do not tell his friends that he is to do no work; do not give strict rules for the prevention of his occupying his brain, because when an organ does not do its work it proceeds to die. Bind up your eye for a sufficiently long time, it will cease to see; tie up your hand, its power will soon be gone. And although I would not say of the epileptic that he is to be in the rush and tear of work I would say that he, much more than the healthy person, ought to have brain work to do.

The next point is early hours. That is a very important thing, and many of these rules apply to chronic disease. Encourage your patients to begin early in the day with an 8 o'clock breakfast if they can. They will find that their occupation, especially if it is mental occupation, infinitely better done at that time. Let him go to bed before 11 P.M.

Then comes tranquillity of mind. Yes, labour is life, but worry is killing. It is bad management that kills people. I am frequently told that such and such a man has overworked himself. Nature will let no man overwork himself unless he plays her false—takes stimulants at irregular times, smokes too much or takes opium. If he is regular and obeys the laws of health and walks in the way of physiological righteousness, nature will never allow him or any other person to work too much. I have never yet seen a case of breaking down from mere over-work alone; but I admit that it is necessary above all things to cultivate tranquillity of mind. Try to help your patients to exercise their wills in regard to this, for will counts for something in securing tranquillity—to accept things as they are and not to bother about yesterday, which is gone for ever; not to bother about to-morrow, which is not theirs; but to take the present day and make the best of it. Those affectionate women who will continually peer into what lies beyond never have any present life at all—they are always grizzling over the past or prying into the future, and this blessed to-day, which is all that we are sure of, they never have.

Another point of treatment is to correct constipation.[3] Frequently the best way to treat constipation is to let it alone. Nature, if you will behave rightly in all other things, will assert itself and bring about a regular action of the bowels. You cannot say that in these fibroid cases. There is a back tide obstructing the free current of blood in its passage through the lungs. The liver gets full, and also the veins of the stomach and bowels, and there will be a greater or less tendency to abdominal and portal plethora, and it will not do to let them go on. If they are so allowed, digestion will be disturbed, nutrition impaired, the general health will get out of order, and the patient may become tuberculous. Keep up the general health in order that the patient may resist the evil consequences of the fibroid disease.

But, on the other hand, you must not purge them. Purging people for constipation is the most dreadful practice that I know. You must try and find out what will just coax the bowel into action. It may be half of a rhubarb pill, half a grain of aloes, half a grain of extract of cascara; it does not matter what it is, provided you keep the object in view—namely, to coax the bowels to act in their own fashion and not by way of medicinal action. It bears upon the whole question of constipation. The *rationale* can be illustrated by a very simple diagram of the large bowel. Between the points A and B, say, we have got the refuse matter of the morning meal; between B and C the refuse matter of what was taken the previous evening; between

C and D the previous day's dinner; and at E, waiting to be discharged, the refuse matter of yesterday's breakfast, bearing in mind that the bowel only acts because there is this refuse matter in it distending it and exciting it to action by stimulating its contractility. The matter is carried along until it comes to the sigmoid flexure, where it is detained until nature finds it convenient to cast it out. Now the patient, say, has had relief to-day, and to-morrow morning he has no relief, and he thinks that the heavens are going to come down. So he takes what he calls a "good aperient," and he empties the whole of the bowel. Next day he has no action. "Confound these aperients, they constipate me so!" They do not. He has removed the conditions of action. You cannot make bricks without straw. The bowels cannot act next day, because no time has elapsed for a sufficient amount of refuse to collect. You may give a small glycerine suppository, which will coax the bowel into giving the relief sought for, and start that free regularity of the bowels necessary to his comfort and well-being. That is the last thing I have to say about regularity of the bowels, with one thing added. Suppose that the patient has not been behaving as he ought to, but has been irregular in his diet or drinking too much. His

[2] [Referring to a previous quotation by us of this remark, it will be remembered that Mr. E. Muirhead Little wrote a letter, which appeared in THE LANCET of Nov. 25th, 1893, to say that his father, Dr. W. J. Little, was happily still alive.—ED. L.]

[3] See Lecture by the late Sir Andrew Clark, THE LANCET, Jan. 1st, 1887.

digestion has got out of order; he has become flatulent, and has nausea and headache: in these circumstances you may alter the mode of action which I have described and give him a grain and a half or two grains of calomel at night, followed by a little sulphate of soda in the morning. These fibroid cases, so suffering, do well with this prescription.

You will ask me in the next place what is to be done about change. I have already told you that one of your first duties to the friends of these patients is to tell them that you cannot cure the case in their sense of the word. You cannot restore these fibroid lungs to their former condition. You will tell them that you will maintain or improve their present condition. But perhaps they will not be satisfied with that, and they may even come across doctors who will tell them that they can cure them, and that if they had seen the case earlier it would have been much better for the patient. I say to you, so far as my knowledge and experience go, change under the ordinary circumstances is, in cases of fibroid phthisis, not likely to do any good. But if the friends push you, and it is satisfactory to them for the invalid to go away, you will be required to answer the question: What is the best climate to which the patient should be sent? It is common nowadays to send pulmonary cases without much discrimination sometimes to high regions, such as Davos, Colorado, the Engadine, and so on; and there is no question about it that, properly chosen, in tuberculous cases these climates do more for the restoration of such tuberculous cases than anything else you can do. But, regarding the disease which we are speaking of—fibroid phthisis—the action of these high climates is very uncertain and sometimes disastrous. If the patients have albumen in the urine they always go to the bad on going to such places. Some two years ago I saw so many of these cases injured that I sent a note to THE LANCET in order to point this out. It seemed to me my duty to do so. At the time I wrote it was almost universally denied that there was any harm in it. Not a word is said about it now, and nobody is sent away there now with albumen in the urine. Now indeed an ordinary tuberculous case with persistent albumen in the urine is never sent. Of course the case where albumen is present a day or two before or after menstruation is not intended to be considered here. The outcome of this little direction is: Do not send fibroid cases with albumen in the urine to Davos or Colorado, and be careful of sending them to a high climate at all. If you are urged to send them to a high climate, tell the friends that you cannot guarantee what the effects may be. I do not know any instances where a seaside bracing place disagrees with these cases, and if you want to be safe, and if you believe that climate, as I tell you, has not much effect upon these cases, you will recommend them to stay at home, or to go to some bracing sea coast.

I have said that these fibroid cases are poor creatures, thin and white, and have what may be called nutritive debility, and the question is: What am I to do with them? You cannot do better than endeavour to make the patient walk in the way of physiological righteousness. But that sometimes will not do. Some people may be physiologically well-behaved, and somehow they do not thrive on it. Can you do anything in those cases? There are two remedies which sometimes do succeed where the ordinary diet will not succeed in nourishing the patient. The one is cod-liver oil and malt given with food, and the other is the remedy called bynol, consisting of hypophosphites, oil, and malt. These are two good nutritive agents in promoting nutrition.

Then comes the question of the various little accidental affections which arise in the course of the case. First there is the gastro-hepatic catarrhs, arising from simple causes—a chill, a slight imprudence in diet, a cold in the bronchial tubes. What are you to do in such cases? Keep to the formula of your diet; but you will stop butter, fats, and puddings. You will give half an ounce of brandy twice a day, and a small dose of blue pill every second or third day. Between meals you will give this mixture: bicarbonate of potash, fifteen grains; iodide of potassium, one to two grains; aromatic spirit of ammonia, twenty minims; and infusion of gentian, to one ounce. To be taken two or three hours after food. That is one of the nicest little combinations that I know. What are you to do if the patient develops albumen in his urine? Follow the same treatment. Albuminuria really is a catarrh of the kidney, and arises in the same way, and the same treatment is equally good, except that I would make the colocynth and blue pill a little stronger.

Then there occurs hæmoptysis or hæmatemesis. We are all of us apt to drop into stereotyped habits some time or another, and in nothing so much as in the treatment of hæmorrhage. It is the custom, for instance, to give gallic acid in large doses. Now I will not stay to argue about this treatment in fibroid phthisis. It will not bear argument for a moment. Not only will it prove inefficacious, but it will prove injurious, and if you have the courage to follow my advice in dealing with hæmoptysis in these cases you will be content with placing the patient quietly in bed with his shoulders raised, with ordering him dry food and limiting the amount of liquids, and adopting some simple method of emptying the bowels—say with half a teaspoonful of Epsom salts once or twice in the day. With diet and quiet and a free action of the bowels you will do a hundred times better with the hæmoptysis than if you pour in gallic acid or any other kind of astringent.

Diarrhœa is another common complication of fibroid phthisis, and as a rule it is the result of a catarrh or back tide of blood upon the bowels, and the best remedy for that is to give a small dose of calomel at night and a small dose of castor oil in the morning. That method seldom or never fails.

Then colds are most perilous things for these patients. A cold gets down into the bronchial tubes and may even attack the lung and bring about small pneumonic attacks, or aggravate the condition of the patient's lung. In these cases put the patient to bed, place him upon a slop diet, and give him every two hours a large teaspoonful of solution of citrate of ammonia. When the fever runs high and the cough is tight I add to the solution of citrate of ammonia five drops of ipecacuanha wine and twenty drops of sweet spirit of nitre, and that is the most efficient, easy, and successful treatment of these intercurrent colds that I know.

Lastly, you know that every organ tends to repair itself, if it has fair play. That is why I began with fair play—and in the course of this it will often occur to you that the patent becomes somewhat sick of medicine, loathes it, and does not benefit from it. In these cases it is a good plan to give in to your patient, and in order to do so without trouble to yourself it is well to administer a little "placebo" at the same time—in consideration of the ignorance of his friends—that you may comfort them with the notion of giving something. For this purpose I generally use five drops of tincture of nux vomica three times a day for three or four weeks. By this I learn how the patient really stands without the influence of medicine, and what conditions are present requiring help from medicine.

The coloured plate presented with this lecture shows a lung which has been removed together with the costal and pulmonary pleuræ, which are blended together to form a tough fibrous investment to the organ. For a short distance over the upper part of the lung the two pleural layers are still ununited. The lung, which is considerably shrunken, has been laid open by an incision through the posterior border from near the apex to the base. The cut surfaces exhibit greatly condensed, pigmented toughened tissue traversed by dilated bronchi, which are surrounded by dense fibrous tissue, bands of which traverse the lung substance in all directions.

TESTIMONIALS.—At a well-attended representative meeting of the residents in Lewisham, held on the 27th ult., Mr. S. Noy Scott, L.R.C.P. Lond., M.R.C.S., D.P.H., was presented, on the occasion of his removing from that town, with a testimonial consisting of a purse of money and an address (framed), of which the following is a copy:—"This testimonial, which originated with Captain Steuart, was presented to S. Noy Scott, Esq., L.R.C.P. Lond., M.R.C.S. Eng., D.P.H., Gold Medallist, Llewellyn Scholar and Pereira Prizeman of Charing-cross Hospital, together with a purse of money containing £99 8s., subscribed by his friends, on his leaving Lewisham, in token of their appreciation of his talents as a medical man, his surgical skill, his zealous attendance, his personal worth, and much-admired conscientiousness, most heartily wishing him success in his new sphere of life."—As an acknowledgment of fifty years' faithful service as medical officer of the Frome workhouse, the guardians of the union have presented Mr. Edward Cockey, M.R.C.S., with a handsome testimonial.

An Address
ON
CARDIAC FAILURE AND DILATATION OF THE HEART.

Delivered before the Nottingham Medico-Chirurgical Society, 1893,

BY JOHN CURNOW, M.D. LOND., F.R.C.P.,
PROFESSOR OF ANATOMY IN KING'S COLLEGE, LONDON, AND PHYSICIAN TO KING'S COLLEGE AND THE SEAMEN'S HOSPITALS, ETC.

MR. PRESIDENT AND GENTLEMEN,—The term "cardiac failure" is in general use to indicate a familiar train of symptoms which show that the power of the heart muscle is insufficient to perform its great work of efficiently forcing the blood through the vascular system. Of course, this failure takes place in the various forms of dying. Passing over such obvious instances as these, the term is applied more generally to the explanation of those cases of disease in which the want of cardiac power is the most striking and the essential feature, and in which it is practically independent of other local impediment or disease. Want of power in the cardiac muscle can be studied very readily, because—provided the blood itself is healthy—we have only two factors to deal with—viz. (1) the quality of the intrinsic muscle-fibre itself, which, if healthy and free from impediment, is able to propel the blood through the circulation unaided; and (2) the nervous mechanism which regulates the contractions of the muscle-fibres. I shall first ask you to consider some of the examples of cardiac failure which are due to derangements of the nervous apparatus. To this class belong cases of sudden death in some forms of cerebral disease, in sudden shock, and probably as the effect of certain poisons, such as the cardiac depressants, and also as the occasional result of at least one of the infective poisons—viz., diphtheria. I remember one fatal case in which death was absolutely sudden and occurred from merely rising up in bed, and the details of a very striking one are recorded by Sir William Jenner in his classical work on Diphtheria (p. 43). "In July last I twice saw a young gentleman suffering from diphtheria. The local and general symptoms were very slight. The boy was considered by his friends convalescent, when vomiting occurred—still, there was nothing to alarm the bystander. But the heart's beats, which had been falling in frequency for two days, were found to be 36 in the minute and at the same time weak. I at once appreciated the gravity of the boy's situation. An hour after, the lad's countenance was not indicative of any very serious affection: it spoke only of a sense of languor; vomiting was said to be frequent, but the tongue was scarcely furred; the mucous membrane of the throat looked healthy; there was no albumen in the urine; the air entered freely to the bases of both lungs (we could not, of course, sit the boy upright, but we turned him on to his side); the heart's beats were rather feeble, the first and second sounds free from murmur and of normal duration; the period of rest—the long silence—was longer than it should be—that is to say, the heart's beats were infrequent, not slow. The infrequency and the feebleness of the heart's beats and the vomiting alone told that the boy's life was in danger. The next morning the pulse, notwithstanding the freest use of stimulants, had fallen to 32, in the afternoon it was 24 only, and soon after he died, apparently from cessation of the heart's action." I have recently been informed of a case of sudden death from the patient raising himself in bed during the recent epidemic of influenza, in whom there were no special symptoms of heart disease. In such cases death is so rapid that there is no time for any marked change to take place in the muscle, and on post-mortem examination nothing but a general flaccidity of the heart cavities is found. If, however, the cardiac failure is somewhat more slowly induced, definite changes take place, and these always give rise to well-marked physical signs during life. In a girl aged fourteen, suffering from diphtheritic paralysis of the palate, arms, legs, and ocular muscles, the pulse gradually fell in the course of a week from 75 to 40 per minute, and remained at the latter rate for some days, and I expected her to die at any moment from syncope. Fortunately, by dint of extreme care and attention, she recovered. During her illness the apex-beat of the heart obviously became displaced outwards and a little downwards, beating an inch below the nipple and almost in a line with it. The first sound lost its prolonged dull character and became so closely assimilated in tone to the second sound that had it not been for the occurrence of the pause it would scarcely have been possible to tell which was the first and which was the second sound. The area of cardiac dulness was also slightly increased. There was at one period a systolic murmur audible over the situation of the apex and to the left, but this afterwards disappeared. The explanation of these physical signs is obviously due to the fact that an acute dilatation of the heart had taken place, and I take it that this condition occurs in every case of cardiac failure, except in the cases of sudden death to which I have referred, and that its absence in these cases is solely due to the rapidity of their termination. If, either from a degeneration of the muscle fibre or from a perverted action of the nervous system, a globular mass of muscle, such as the heart is, fails in its tonicity and contractile power, a flaccid condition of the fibres will be the immediate result, and this must, in turn, from the constant intrinsic pressure of the contained blood against the cardiac walls, lead to a dilatation of its cavities, which will be more or less acute according to the condition of the muscle fibre, and be either general or partial according to the varying incidence of the blood pressure in the respective cavities. Immediately the dilatation commences the apex-beat must of necessity change its position. If the left heart is mainly affected, as is more common, it will be displaced outwards and downwards; if the right heart, the impulse will then be found to be wavy in character and to extend further to the right than normal. With the displacement of the apex-beat there will also be an increase of cardiac dulness, but this, unless the dilatation is very great, cannot be easily ascertained.

In determining the value of both of these signs—viz., the position of the apex-beat and the extent of cardiac dulness—we should always remember that there may be individual anomalies, or the patient may have had some pre-existent disease, which has so affected them as to alter their diagnostic significance. In estimating their importance we must always bear in mind that the position of the nipple is far from being constant, but this gives but little difficulty if we remember that the proper site of the normal apex-beat is (on the average) three and a half inches from the mid-sternal line and either in the fifth costal interspace or against the sixth rib. After having observed that the position of the nipple is normal, we next make sure that the chest-wall is normal and symmetrical. A personal friend of mine is at present supposed to have a dilated heart because of his increased area of cardiac dulness, but I am sure that this is entirely dependent on the costal cartilages having been depressed over this area as a result of rickets and whooping-cough in early life. Again, lateral curvature of the spine has often led to error in estimating the area of cardiac dulness. Then passing over such a condition as a pericarditis with effusion, which in all acute and infectious diseases will require a most careful differentiation from acute dilatation, with which it is often confounded, I would next point out that the left lung partially overlaps the heart in health and in emphysema often covers it entirely, so that no apex-beat is visible and the dulness is completely effaced. In such cases the point of maximum intensity of the heart's sounds in the region of the apex may practically be taken as the actual position of the apex. Lastly, in this connexion, it should be remembered that the heart itself may be displaced, as from mediastinal or pleural growths or effusions, contracting cavities in old phthisis, aneurysms of the large vessels in the thorax, and many other affections. The other physical signs are a change in the character of the first sound and a prolongation of the normal cardiac pause. These in themselves may also be misleading, for I have often heard a short sharp first sound, approximating in pitch and length to the second sound, and accompanied with an unduly long pause in nervous patients dreading the result of the examination; but if these are coexistent with either a displaced apex-beat or an increase in the area of cardiac dulness, or still more with both, they are then signs of the utmost gravity. The mechanism of the production of the sounds of the heart readily explains this. The tension of the sigmoid valves of the aorta and pulmonary artery is now almost universally allowed to be the cause of the second sound, and this would seem to have been definitely settled

by Hope's experiment of hooking back a segment of these valves, when "the natural second sound entirely ceased and was replaced by a prolonged hissing." The cause of the first sound is much more disputable. The tension of the auriculo-ventricular valves on closing is, I believe, accepted as an essential factor by almost every physiologist, although lately there is even some question as to this; but the prolonged dull boom must be due to something more than the vibration of a stretched valve, and since the days of Laennec this has nearly always been attributed to the act of muscular contraction of the ventricles themselves. It was, therefore, with considerable surprise that one found that any doubt existed as to this being one of the principal factors in its production, and that this doubt existed in the mind of so eminent a physiologist as Professor Michael Foster and was enunciated at great length in the first edition of his text-book of Physiology published in 1877. "The first sound, longer, duller, and of a more 'booming' character than the second, heard with greatest distinctness at the spot where the cardiac impulse is felt, presents many difficulties in the way of a complete explanation. It is heard distinctly when the chest-walls are removed. The cardiac impulse therefore can have little or nothing to do with it. In point of time, and in the position in which it may be heard to the greatest advantage, it corresponds to the closure of the auriculo-ventricular valves. In point of character it is not such a sound as one would expect from the vibration of membranous structures, but has, on the contrary, many of the characters of a muscular sound. In favour of its being a valvular sound the fact may be urged that it is obscured, altered, and replaced by murmurs, where the tricuspid or mitral valves are diseased; and Halford found that clamping the great veins stopped the sound, though the beat continued. On the other hand, Ludwig and Dogiel heard the sound distinctly in a bloodless dog's heart, in which there was no fluid to render the valves tense and set them vibrating; but there is a great difficulty in regarding it as a muscular sound, for the latter is the result of a tetanic contraction, the height of the note produced varying with the number per minute of the simple contractions which go to make up the tetanus. A simple contraction or spasm cannot possibly produce a musical sound, such as is the cardiac sound. The beat of the heart is a comparatively slow, long-continued, single spasm, and not a tetanic contraction. The rheoscopic frog answers to the negative variation accompanying each ventricular systole by a single spasm, not by a tetanus. In its long latent period, and in all its characters, the heart's beat bears the stamp of being a single spasm. If so it cannot give rise to a note. Moreover, in cases of hypertrophy, where the muscular element and action are increased, the sound, so far from being increased, is impaired. Hence the first sound, whether it be regarded as the result of the vibration of the auriculo-ventricular valves, acted upon by, and in turn acting on, columns of blood, or as a muscular sound, presents great difficulties. No other cause in the least satisfactory has been suggested, and the difficulties are rather increased than met by supposing "that the sound is at once both valvular and muscular in origin." I need not point out how distinctly this opinion is at variance with the clinical observations of heart disease, in which changes in the muscular walls of the heart have always been found to modify the pitch, tone, and duration of this sound, and I venture to say that Professor Foster is in error when he states that in cases of hypertrophy "the sound, so far from being increased, is impaired," and in support of my contention I will quote the exact words of Niemeyer: "When the heart is hypertrophied the sounds are more distinct and louder." I only refer to this because in the teaching of clinical medicine Professor Foster's statements were frequently brought to my notice by my class. I am, therefore, pleased to find that in the last edition (1891) Professor Foster has quite departed from his former opinion, and that he now believes that in the first sound a muscular and a valvular element are combined, for this agrees with our everyday clinical experience. He says: "Now, the ventricular systole is undoubtedly a simple contraction, a prolonged simple contraction, not a tetanus, and, therefore, under the old view of the nature of a muscular sound, could not produce such a sound; but accepting the other view, and reflecting how complex must be the course of the systolic wave of contraction over the twisted fibres of the ventricle, we shall not find great difficulty in supposing that that wave is capable in its progress of producing such repetitions of unequal tensions as might give rise to a 'muscular sound,' and consequently in regarding the first sound as mainly so caused. ..... Moreover, seeing that the auriculo-ventricular valves must be thrown into sudden tension at the onset of the ventricular systole, which, as we have seen, is developed with considerable rapidity, not far removed, at all events, from the rapidity with which the semilunar valves are closed, a rapidity therefore capable of giving rise to vibrations of the valves adequate to produce a sound, it is difficult to escape the conclusion that the closure of these valves must also generate a sound which, in a normally beating heart is mingled in some way with the sound of muscular origin, although the ear cannot detect the mixture. If we accept this view that the sound is of double origin, partly 'muscular,' partly 'valvular,' both causes being dependent on the tension of the ventricular cavities, we can perhaps more easily understand how it is that the normal first sound is at times so largely—indeed, we may say, so completely—altered and obscured in diseases of the auriculo-ventricular valves." I should not have detained you with these observations on causation of these sounds, but that this question of causation is all-important in the study of cardiac disease.

I now pass on at once to what I assume is the explanation of the short, sharp, first sound so constantly heard in cardiac dilatation. If a muscular element is admitted in the production of the first sound of the heart an increased mass of muscle will give a more prolonged and booming, or even a reduplicated, sound, as we ordinarily hear in cases of left-sided hypertrophy in chronic renal disease. If the cavities are dilated the normal amount of cardiac muscle is spread out over a larger area, necessitating thinner walls, and relatively a less proportion of muscle to a larger cubic area. The muscular element in the sound will be proportionately lessened, and it will thus be approximated in pitch and tone to the second sound, which is altogether due to valvular tension. Occasionally murmurs (generally systolic) are heard over the apical region of the heart in cases of dilatation, and these may be due to a slight regurgitation caused by the inefficiency of the mitral valve in arresting a backward flow from an enlarged and dilated ventricle, but I think they are more frequently caused by the irregularity of the vibrations into which the irregularly-stretched valves are thrown by the unequal current of the blood. I have, in cases of hyperpyrexia in acute rheumatism, and in many other cases of fever with high temperature, heard murmurs over the apex of the heart which have disappeared on the recovery of the patient; but in other instances, in which death has supervened, a post-mortem examination has proved them to be independent of any structural valvular lesion, and in such cases, as in cases of dilatation, I am disposed to attribute their causation to unequal vibration of the curtains of the mitral valve, due to impaired and irregular muscular action of the musculi papillares giving origin to the chordæ tendineæ which are attached to the cusps of the valve. It is important in this connexion to bear in mind that not only may a pure dilatation without valvular lesion be attended with a systolic apical murmur, but, on the other hand, advanced disease of the mitral valve may occasionally give rise to no bruit if the heart is so weak as only to force backward a very feeble current, even though the regurgitation at some previous period, when the heart was stronger, had been very great, and when it had been attended with a well-marked murmur. Physical signs of dilatation may be present without any other symptoms of cardiac failure, but sooner or later these also become apparent. They are all due to a weak heart, which is incapable of thoroughly propelling the blood through the vascular system and, except in cases of sudden and acute death, either depend on a primitive malnutrition of the muscle fibre or are due to a secondary degeneration of a hypertrophied heart, the result of an attempt to overcome some mechanical obstacle in the circulation. It is a question whether a dilated heart cavity ever completely empties itself of the contained blood. The symptoms of cardiac failure due to a primitive dilatation of the heart-cavities from insufficient nutrition and consequent degeneration of the muscular fibre of the heart are necessarily the same as those due to a failure in compensatory hypertrophy subsequent to any circulatory obstruction or impediment. I need only refer to some of the principal symptoms, as the full group forms a clinical picture with which we are only too familiar. In slight cases the patient complains of palpitation, headache,

dyspnœa, on exertion, and a marked readiness to be fatigued. Palpitation is a usual sign, and an early one, of the dilated heart, and is due to an irregular and laborious attempt to do its proper work. This is accompanied with most distressing subjective symptoms, varying between a mere sensation and the agony of a true angina, from which the patient may die. A relative of mine, about sixty-five years of age, in apparently good health except for slight attacks of palpitation, died in a second paroxysm of angina, and the only lesion found was a very dilated heart, presenting here and there patches of fatty degeneration. There was very little fat on the surface of the heart. Headache is a very common symptom and is, of course, due to the arteries being only partially filled with oxygenated blood, whilst the venous system is over-filled with deoxygenated blood, and the same considerations will readily explain the sensation of dyspnœa, which, if not complained of, will be found to be always present if we institute a careful cross questioning as to the effect of exercise, going upstairs, or as to the presence of early fatigue; for products of muscle-contraction are only inefficiently removed from the muscles by the comparatively inactive venous current, and fatigue then results. In the early stage pallor is nearly always present. As the disease advances this pallor gives way to lividity, and œdema of the lower extremities becomes evident in the evening; the pulse is small, irregular, and often intermittent, unless when it is abnormally slow; the urine is scanty, loaded with urates, and perhaps albuminous; the liver is often enormously enlarged, and some slight jaundice may be present; passive hæmorrhages occur; the palpitation and dyspnœa become intense, and general dropsy supervenes, denoting a rapidly fatal end.

(To be continued.)

A Clinical Lecture
ON
THE PARASITE OF MALARIA AND ITS DEMONSTRATION.

Delivered at the University College Hospital on Dec. 15th, 1893,

BY PATRICK MANSON, M.D. ABERD., M.R.C.P. LOND., &c.

GENTLEMEN,—Dr. Ringer has very kindly extended the hospitality of his wards to a patient under my care who is suffering from malaria, and whose blood parasites I desired to experiment upon and study. Dr. Ringer himself at one time devoted a great deal of attention to malarial diseases; he made several notable contributions to our knowledge of the subject, and is, therefore, well qualified to judge of its importance. Believing in this, he has availed himself of the opportunity presented by having this patient in his ward to set me to demonstrate the malarial parasite to you, and, if time permits, to say a few words about its bearing on the disease with which it is invariably associated. In England, in a general way, we see very little of malaria at the present time; it is only from a scientific point of view, therefore, that the subject is likely to be of interest to those of you who intend to practise your profession at home. There are among you, however, not a few who by-and-bye will doubtless enter the public services, and whose spheres of professional activity will lie in foreign and, most probably, malarious countries; to such of you to acquire a clear conception of what malaria really is, to be brought face to face with its germ, to be able to recognise this germ when you see it, and to be able to demonstrate it when you so desire, are matters not only of great scientific interest but also of the highest practical importance. Someone says that when we speak of an unhealthy climate we really mean a malarious climate. This remark, for the most part, is true. If you go to India or to any of our tropical or subtropical possessions, you will find that the unhealthiness, or the reverse, of the particular place at which you are stationed will in great measure depend on the presence or absence there of the parasite I propose to show to you.

In Europe we look upon the tubercle bacillus as the most important of all the parasites. In the tropics it is common enough too; but its importance there as compared to that of the malarial parasite is insignificant. There it might be said of the tubercle bacillus as contrasted with the malarial parasite as was said of Saul and David: the former has killed his thousands, the latter his tens of thousands. This is no exaggeration. In many, if not in most tropical climates, directly or indirectly, malaria is responsible for half the mortality. From this you will see how important it is that you should be well equipped before you go out to encounter this the most formidable enemy of mankind; how important it is that you should know how to look it in the face and to recognise it when you see it.

After a great discovery has been made we often wonder it was not made before. It seems so simple and self-evident. As with other discoveries so it has been with that of the malarial parasite. Hundreds of microscopes—my own amongst them—were directed, times without number, to the examination of malarial blood without seeing the very evident organism I show you to-day. This is very strange, for, without stain or elaborate preparation of any kind, there it "shows up," to use a vulgar expression, "as plain as a pikestaff." Not only this, but a great many different kinds of organisms were actually described as the genuine malarial parasite, a thing which everyone who had thought about the matter, ever since the idea of disease germs was conceived, knew must exist, and that probably in the blood. These germs, however, all came to nothing; they are dead and buried, and we will say no more about them. It was not until as recently as 1880 that the true germ, or what many others, as well as myself, believe to be the true germ, was discovered by a French army surgeon (Laveran) in Algeria. At first the discovery was in a great measure ignored; but gradually the truth, as it ever will, is making progress, and now Laveran has a great many followers who firmly believe in the existence of the organism he described, and the great *rôle* it plays in nature and disease. Although there are a great many sceptics, it is only a matter of time, I am convinced, before the plasmodium malariæ, or whatever name we elect to call Laveran's bodies by, will be universally recognised by pathologists. The reason for the long delay in discovery, and also the reason of the reluctance so many observers display in accepting the discovery, is very evident to anyone who has worked much at the subject. It is entirely a matter of technique—and very simple technique too. Unless certain methods—very simple ones they are, but none the less necessary—are observed in preparing malarial blood, the parasite will never be seen. Laveran was the first to use this technique in the examination of malarial blood, and he found the parasite; and those who follow his methods can at once confirm every statement of fact he makes. I shall first tell you how to set about this, and I am sure that, provided you follow to the letter the directions I give you, you will readily find the parasite in every case of genuine malaria which has not been recently and energetically treated by quinine. The ordinary way of examining blood is to prick the finger tip, take up a little of the blood which exudes on a cover glass, and lay it on a slip. Prepared in this way the blood-corpuscles are seen to lie in rouleaux, with islands of serum between them. The individual corpuscles which make up the rouleaux are so placed that their edges are directed towards the observer; therefore anything which the corpuscles may happen to contain is not to be readily seen. Now in blood so prepared it is quite a chance, and a very poor one, that you will see the malarial organisms, even though they are present in abundance—one or two, perhaps, in every field. To see the parasite the slide must be so prepared that the corpuscles shall lie not only in a single layer of great tenuity, but they must also lie flat on their faces, so to speak, so that the entire surface and circumference of each individual corpuscle shall be clearly visible. In slides so prepared, to find the malarial parasite is only a question of a little patience and a magnifying power of anything over 500 or 600 diameters. To prepare such slides you should set about it something in this way. Clean very thoroughly half a dozen slips and cover-glasses; they must be quite free from grease, dust, and grit of all description; use a little ether and alcohol if necessary, with which to clean them. The cover-glasses are better if they are very thin and about five-eighths of an inch in diameter or square. When your glasses are all ready and lying handy ligature the finger in the usual way, wipe it clean and quite free from all moisture, and then prick the pad very lightly. You must not prick it so that a large drop of blood shall well up. A droplet about the size of a pin's head is best. Better wipe off the first droplet that exudes, because this often contains grease, epithelium, bacteria, and other

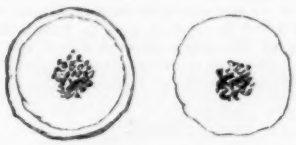
undesirable bodies from the prick in the skin. When a second droplet has welled up, or been gently squeezed out, touch its apex lightly with the centre of the cover-glass and then drop this at once on a slip. Do not press it down or glide it on the slip, but drop it. If the manipulation has been successful the blood will run out at once between the cover-glass and slip in an exceedingly fine layer, in which, after a time, the corpuscles will be found lying flat, each one being more or less isolated and distinct. You had better prepare half a dozen slides, for most probably several of them will be failures. Be careful in taking up the blood from the patient's finger not to let the cover-glass touch his skin; in that case it will be sure to carry off with it some dirt or epithelium and the blood will not run out properly. You may seal the edges of the cover-glass with vaseline if your examination is not to be made immediately, or should you propose to make it a long one. This will prevent evaporation, and consequent distortion of the corpuscles. Preparations so made will keep for a good many hours, particularly if the room is cool. You may think that I am somewhat fastidious about this apparently very simple matter of the preparation of the slides. But, for your warning, I would repeat that it is entirely on account of ignorance, or the non-employment of this very simple technique, that the discovery of the malarial parasite was so long delayed, and that so many people are still sceptical as to its existence. If you do not attend to this little matter you had better not waste your time in searching for the plasmodium, for you certainly will never find it. Your microscope must be provided with a good condenser and two objectives mounted on a nose-piece. Daylight is better than artificial light: either will do. The lower objective should magnify about 300 or 400 diameters, the higher at least 600 diameters, but better still 1000 or over. Having selected your slide, begin to search it bit by bit with your lower power; do not grudge the time spent over it You may chance on a parasite in the first field or you may have to search for half an hour before you come across one, and you may have to try a second or even a third slide. Sometimes they are numerous enough—one, or perhaps two, in every field; at other times they are very thinly sown. It is not so simple and easy a matter as searching for tubercle bacilli; rarely are they seen at once and in every field. If you are not prepared to spend at least half an hour in the search you had better not attempt it. Sooner or later, if patient, you will be rewarded—that is, if the blood-giver is suffering from malarial disease and has not been drugged with quinine. How is the parasite to be recognised? Searching with the lower power you at last perceive, either in a blood-corpuscle or in the plasma of the blood, a minute speck of pigment of an intensely black, or sometimes a very dark brown, colour. Centre any such object you come across and turn on the higher power. You will then see, after a little careful scrutiny, that the black pigment is inside a clear, transparent, homogeneous substance, which in its turn may itself be either inside a blood-cell—in which case it has a more or less irregular shape, which I shall attempt to describe presently—or this body is free in the plasma. In another form the pigment is concentrated and heaped up at the centre of a pale circular disc, or, perhaps, long sausage-shaped rod, which may be either straight or more or less bent into the form of a sickle or crescent. You may see that the pigment is diffused through a clear body as granules—stationary or in active movement—and inside a sphere much smaller, or quite as large as, a blood-corpuscle. There are other forms, but those I mention are the principal and most frequently met with. Examples of these I have placed under the various microscopes on the table. I shall now try to describe these bodies in some detail and afterwards endeavour to indicate their relationship to each other; for they are really, all of them, though seemingly very different, but phases of one polymorphic organism.

Under microscope No. 1, at the centre of the field, you will see a red blood-corpuscle, with a palish, shadowy sort of body, occupying a considerable portion of the interior. Here and there, included in this body, you will see particles of a very dark pigment. The part of the corpuscle which is not occupied by this pale, pigmented body is quite normal in appearance and of the ordinary colour. Direct your attention for a time to the particles of dark pigment, and carefully watch them. You will see that they gradually change their position relatively to each other and also to the rest of the contents of the corpuscle. Now fix your attention on the ill-defined edges of the pale body. You will see that they, too, slowly alter their form. It is evident, therefore, that the body inside the red blood-corpuscle is moving; in fact, that it is alive. This phase of the malarial parasite is called the "intra-corpuscular, pigmented, amœboid form," and is the one most frequently encountered. Under microscope No. 2 you will see a body similar to that just described; but in this instance it is not occupying a blood-corpuscle; it is free in the plasma. It, too, is pigmented and is indulging in slow amœboid movement. This is one of several forms of free pigmented amœboid bodies seen in malarial blood. You will remark that in both the free and the intra-corpuscular bodies the pigment particles are irregularly diffused through the substance of the parasites. Under microscope No. 3 you will

FIG. 1. FIG. 2.

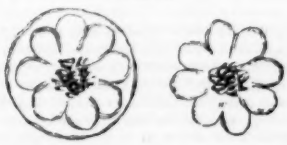
see a disc-shaped body, beautifully circular, and everywhere transparent except at its centre, where there is an accumulation or heaping up of intensely black pigmented granules, the particles of which are occasionally agitated by a kind of Brownian movement. Sometimes these bodies, like the first form I have just described, are intra-corpuscular, in which case a fine ring of hæmoglobin is seen to surround the periphery. Usually they are free in the plasma. These I shall call "centrally-pigmented discs." Under microscope No. 4 you will see a body exactly similar to the last—pale, circular, disc-shaped—and also with a cluster of black pigment granules at its centre. Focus it very carefully and you will perceive that

FIG. 3.



the pale peripheral substance is arranged in minute leaf-like segments, each segment alike in size and shape, and the whole resembling a daisy or single dahlia. In some of these segmented bodies a minute speck of pigment can be seen in the centre of each petal. This is not very common; I have seen it, however, and it contributes very much to the striking appearance of this little blood-flower. The well-defined pigmented common centre represents the heart of the daisy. Altogether these "rosettes," as they are called, are very beautiful and striking objects, and cannot be confounded for a moment with any normal constituent of blood or regarded in any way, as some have done the other forms I described, as

FIG. 4.



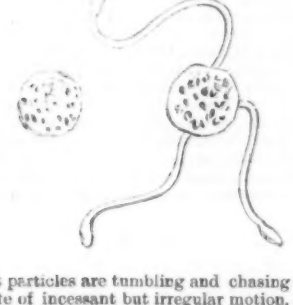
degenerated blood-cells. Under microscope No. 5 you will see a sickle-shaped body, for the most part pale, like the discs, except at its centre, where it too has a well-marked accumulation of black pigment. These bodies are called crescents, but they are not crescents in the usually accepted meaning of that word. The horns are rounded off, not sharp like the horns of the crescent moon. You will also perceive in many specimens a delicate arc-like line, crossing the cup of the crescent, with its convexity directed away from the crescent and joining the two extremities or horns. The general appearance of such bodies reminds one of what is known as the "new moon

with the old moon in its arms." You understand what I mean—a clear, well-defined crescent with a sharp-edged, but still shadowy, ill-defined, slightly luminous body included. Under microscope No. 6 you will see a small, sharply-defined, exceedingly transparent, spherical body containing innumerable points of black pigment dancing about in its interior. This is one of several varieties of the free malarial bodies we sometimes encounter, and is, I believe, the remains of the most striking of all the phases of the malarial parasite. This striking form I allude to I am sorry I am unable to demonstrate to you at present. It is of extreme delicacy and does not retain its peculiar features for more than an hour or two after removal from the body, so that had I been fortunate enough to come across one when preparing these slides this forenoon it would probably have vanished by this time. You must

FIG. 5.

take my word, therefore, for the reality of its existence and my description for the thing itself. Sometimes, in searching through a slide of malarial blood, at a particular point of the field you will see one or more of the blood-corpuscles moving about a little and agitated without any evident cause. If one of the corpuscles happens to be standing on edge, you may see it bend over on itself, as if pressed down by some force, and then suddenly spring up again as if this force had been removed. Sometimes in such a slide you will see one or more of the corpuscles crushed up, as it were, or dashed aside and tumbled about. If, now, you turn on the high power and inquire as to the cause of this disturbance among the corpuscles, you will be brought face to face with one of the most striking of the many strange sights the microscope reveals to us. Imagine a microscopic cuttle-fish or octopus with a clear, globular body in which a number of rather large

FIG. 6.



black pigment particles are tumbling and chasing each other about in a state of incessant but irregular motion. Imagine, also, proceeding from and attached to this body, one, two, three, or four long slender arms, each of them three or four times the length of the diameter of a blood-corpuscle; and all these long, cuttlefish-like arms whirling about like so many whiplashes or flails in a state of frantic activity. This is what is known as the "flagellated organism" of malarial blood. The long arms thrust the corpuscles about, double them up, coil around them, squeeze them out of shape, and treat them like so many indiarubber balls. Occasionally one of the arms breaks away from the spherical body it was attached to; it swims about, wriggling its way among the corpuscles, and quickly passes out of the field. Sometimes one of the arms coils itself up or starts into an extended position, shivering like a wand when it is struck. I have watched these bodies thus disport themselves, if I may use the expression, for an hour at a time; and I believe, under favourable circumstances, they sometimes remain alive on the slide for two or three hours even before they finally cease to move. When movement ceases the flagellæ slowly melt away, leaving the central sphere with its dancing pigment particles still in active motion. Anyone who has seen these flagellated bodies can never mistake them for degenerated blood-cells or regard them as anything but parasitic. Yet another appearance I would direct your attention to. Under microscope No. 7 you will perceive a large leucocyte. You will readily recognise it by its irregular shape, the peculiar appearance of its protoplasm, and by its ill-defined nucleus. You will see that it has enclosed in its substance a mass of black pigment resembling that constituting the centre of the disc-shaped organism, the rosette body, and the crescent.

These are the principal forms assumed in the human blood by the malarial parasite. Having thus briefly described them I shall endeavour to interpret them and connect them one with the other. My interpretation may or may not be correct. I do not say that it is correct, and would warn you against accepting it as anything more than conjectural. In some particulars the explanation is my own; in most it is that advanced by Golgi, an Italian scientist who has studied these bodies with great care. I shall commence with the rosette body, which I assume to represent the final and mature form of the parasite. The little petals we will regard as so many spores or seeds. Now, we often meet with a rosette body which is breaking up, or falling to pieces as it were, and in which the spores or petals have separated one from the other and also have fallen away from the central pigment mass. It is believed that after a time these spores acquire amœboid properties, and that, attaching themselves to the blood-corpuscles, they penetrate the limiting membrane and work their way into the interior of the cell. Here they are frequently seen as minute, pale, actively moving bodies. By degrees they increase in size, growing at the expense of the hæmoglobin, which they convert into their own proper tissue and into the black particles you readily recognise in all the preparations before you; the pigment may, therefore, be looked on as a sort of waste product of the parasite's digestion; you can easily trace the gradations in size. By degrees these bodies grow until they have consumed all or nearly all the corpuscle, the limiting membrane and perhaps a small rim of hæmoglobin only remaining. Arrived at this stage some of the affected blood-corpuscles burst, and the included parasites escape into the plasma; others, again, do not so escape, but proceed in development while still included in the blood cells. In either case, when the parasite has attained a certain size and degree of maturity, the pigment particles—which had hitherto been scattered irregularly through the substance of the little animal, and with which these are now loaded—gradually move towards the centre of its body; at the same time the amœboid movements cease, and the parasite assumes the circular disc shape represented under microscope No. 3. Then a process of segmentation sets in, commencing first at the periphery of the disc, and gradually extending towards the central pigment, but not involving the latter in any way. Thus the rosette body with its petals is formed. By-and-bye the "flower" falls to pieces and the spores seek out new red blood-corpuscles and start a fresh generation of parasites. What becomes of the pigmented centre? The phagocyte under microscope No. 7 will explain this. The pigment, and sometimes an entire parasite even, is devoured by the ever-watchful phagocyte, and is carried by it to the spleen, brain, bone-marrow, or liver, where it is deposited and becomes the pigment so characteristic of these organs in all malarial cadavera. This may or may not be the correct interpretation of the facts before you; at all events, it seems to hang together and will do to string the various appearances of the malarial parasite in something like intelligible order. How about the crescent forms? you will ask. Well, there is a great diversity of opinion about them. Some hold that they are altogether a different species from the intra- and extra-corpuscular parasite. This I do not concur in. Their colour, their possession of centrally located pigment, and their size, all seem to me to identify them with the ordinary centrally-pigmented discs. My own explanation of their production and of their peculiar appearance is as follows: When one of the intra-corpuscular bodies has so grown as to quite fill the corpuscle, and should it still continue to grow, and at the same time the limiting membrane of the corpuscle refuse to rupture or stretch, something must happen, something must give way to accommodate the increasing size of the parasite. Now what happens I believe to be this. The corpuscle buckles over and folds

on itself, as we often see corpuscles do in slides of ordinary blood; and, at the same time as the corpuscle thus buckles over, the limiting membrane of the concave side of the now cup-shaped corpuscle springs up away from this surface of the parasite, the sides of the parasite falling together. Thus what was formerly the equator of the disc becomes its circumference, and sufficient room is obtained to accommodate the parasite. In this way I account for the central position of the pigment in the crescents, for the fine arc-like line connecting the horns, and for the old moon in the new moon's arms appearance which in many of these bodies is so striking. As for the flagellated bodies, I am at a loss to explain their position or *rôle* in the cycle of the parasite's life, and shall not attempt to do so. Undoubtedly it belongs to the same organism as the extra- and intra-corpuscular bodies; but what its exact relationship to these is I might conjecture, but could not say for certain.

I fear I have occupied too much of your time already with the description of the malarial parasite to allow of my saying anything about its *rôle* in the production of the clinical phenomena of malaria. Golgi, whose name I have already mentioned, says that there are two varieties of malarial parasite—one having a life cycle requiring forty-eight hours to complete producing the tertian agues, the other having a life cycle requiring seventy-two hours to complete producing the quartan agues. If in the same patient, according to Golgi, there are two sets of tertian parasites, one set maturing at the conclusion of the forty-eight hours ending to-day, say, and the other set maturing at the conclusion of the forty-eight hours ending to-morrow, we shall have a double tertian—that is, a quotidian ague. And so with the quartan parasite; and a combination of these two parasites in different proportions and variously mixed as to time of maturation he says gives rise to every description of malarial fever. This is a very ingenious hypothesis; but I hardly believe it. I believe that the strange periodicity of the malarial fevers depends as much on the rhythm of the physiology of the human body—of the presence in or absence from it of certain resistive principles—as on any peculiarity of rhythm about the maturing of the malarial parasites. If the parasites are possessed of the toxic properties which Golgi must assume that they possess at the moment of maturation, why is it that often, as in both the patients whose blood you have examined to-day, these are swarming at every stage of development, and yet neither of these patients has at the present moment, or has had for some days past, any fever whatever?

I could tell you a great deal more about these interesting organisms did time permit. Before concluding I would like to add a word or two on one of the more practical aspects of the matter You know that a first and all-important requisite to the successful treatment of disease is correct diagnosis. Diagnosis can never be more correct than when you see in the tissues or juices of your patient the germ of disease. You are absolutely sure of your diagnosis then. You know at least the kind of disease you have to deal with, and if there is a specific remedy you know at once the line of treatment you have to follow. I shall illustrate this. The patient from whom I obtained this morning these beautiful crescents under the microscope was admitted into the Seamen's Hospital, Greenwich, I think, on Monday. He appeared to be suffering from a very bad attack of ordinary dysentery. He was passing, almost incessantly, plum-coloured stools containing blood and mucus; he had tormina, and he had much tenesmus. The house physician, Dr. Spencer, diagnosed the case at first as one of dysentery; and such it was, but in a peculiar and somewhat rare form. At his evening round Dr. Spencer found that the patient's temperature had risen to 104° F.; it had been normal, or nearly so, at the time he was admitted. Now we know that high fever of this description is not a usual feature in dysentery unless it is complicated with liver abscess, pneumonia, or some other intercurrent disease. Dr. Spencer could find none of these complications present and was naturally much puzzled about his diagnosis. The man had come from Savannah, a malarious place. Acting on this hint, Dr. Spencer placed a little of the patient's blood under the microscope and found at once, and in every slide, large numbers of "crescents" and other forms of the malarial parasite. Instead then of giving the man big doses of ipecacuanha, as is usual in the treatment of dysentery, and which very likely would have proved fatal to him in his extremely cachectic and debilitated condition, Dr. Spencer gave him at once twenty grains of quinine. The next morning the patient was much better, his dysentery had practically ceased, and he is now in a fair way to recovery. Between them, I have not the slightest doubt, Dr. Spencer and his microscope saved this man's life. This, gentlemen, is an excellent illustration of the adage that "knowledge is power." Try to acquire it in this matter of the malarial parasite. Constantly in tropical practice similar cases of difficult and extremely important diagnosis occur. How are you to distinguish malarial fever from puerperal fever, for example, in a parturient woman in a malarial country? I have seen aphasic attacks produced by malaria and occurring in the course of malarial fever. How could the nature of such attacks be diagnosed if you did not obtain a good history of your patient? For all you can learn from him, he may be the subject of a gross cerebral lesion. A speechless man cannot tell his story. Use your microscope. If you see the plasmodium malariæ in the blood give quinine freely, and very likely you will save your patient. Treat him for cerebral hæmorrhage or embolism, and very likely you will lose him. And so with those terrible pernicious attacks common in malarial disease in hot climates. A patient rapidly becomes insensible and comatose, his temperature steadily rises to 106°, 107°, 108°, and so on up the stem of the thermometer. What is the nature of the case? Is it malarial, or is it sunstroke? Make a mistake and you will lose your patient. Treat him energetically and on right lines, and you may save him. In such circumstances, if the case is one of pernicious malarial fever a hypodermic injection of quinine, promptly administered, and the cold bath may save him. Your microscope will make the diagnosis for you if it is handy. So, too, with the choleraic types of pernicious malarial fevers; and so, too, with the fever associated with liver abscess, the nature of which is often hard to diagnose by ordinary means. I could say a great deal more on this subject. It is one of the greatest practical importance. I am quite sure that none of you, particularly those of you who may in the future go abroad to practise your profession, will ever regret any little trouble you may now take to familiarise yourselves with the appearance of the malarial parasite and with the method of demonstrating it.

THREE SOMEWHAT UNCOMMON CASES OF SALIVARY CALCULI; WITH REMARKS.

BY J. W. HULKE, F.R.S.,

PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; SENIOR SURGEON TO THE MIDDLESEX HOSPITAL.

SALIVARY CALCULI in their more usual situation near the buccal end of Wharton's and Steno's duct are very easily recognised; their situation, their very definite figure, and their significant hardness—all of which are readily appreciated through the buccal mucosa—together establish a very high degree of probability of the true nature of the little knot they occasion; and the fluxionary swelling of the gland which they in many instances provoke affords additional proof. Their figure is usually fusiform or oval, and their size small, the length of their longer axis seldom exceeding one centimetre. They occur more often in connexion with the submaxillary than with the parotid gland, a circumstance not improbably dependent on differences in the constitution of the secretion yielded by these two glands. The secretion of the parotid gland is quite limpid, whereas that of the submaxillary gland is glairy, owing to the presence in it of much mucin, a substance which seems to possess considerable binding qualities and to favour the agglomeration of solidifying inorganic salts, like the acacia gum-water used by Messrs. Rainey and Ord in their instructive experiments on the artificial production of concretions. Of the originating causes of the formation of salivary calculi there is little certain knowledge. The precipitation and accretion of urinary salts around foreign bodies detained in the urinary bladder—a circumstance with which all are familiar—have suggested a like origin for salivary calculi. Their very common situation within the main salivary ducts near the opening of those in the buccal mucosa, through which it is imaginable that minute foreign bodies may enter, favours this hypothesis; besides, it is well known that in a few instances the presence of a foreign nucleus within a salivary calculus has been actually verified.

Perhaps, were a search always made for such a nucleus, its presence would be more frequently verified. The diagnosis of a salivary calculus is not quite so easy when it is situated at a distance from the orifice of the main salivary duct, and particularly when it is deeply placed and bedded in the gland substance. Thus, in the third case narrated below, the real nature of the swelling was first discovered in the course of the operation undertaken for its extirpation. Here the remoteness of the calculus from the opening of Wharton's duct makes it unlikely that the minute splinter of woody tissue which had provoked its formation could have entered through this orifice; and it gives probability to the supposition that the splinter passed directly through the mucosa and the intervening tissues into the deep part of the gland. The insidious penetration of the mucous membrane of the floor of the mouth by foreign bodies and the passage of these through the tissues to considerable distances are not very infrequent circumstances. As an illustration of this may be cited the presence of a piece of a blade of grass in an abscess which pointed in the parotid region. On this being shown to him the patient, a farm labourer, said that he had a habit of plucking blades of grass and holding them between his lips. In another instance a piece of straw was found in an abscess that broke in the submaxillary triangle. The formation of salivary calculi around foreign bodies lying in the secreting tissue of the gland and not in the efferent duct has its analogy in the deposition of urinary salts upon sutures passed through the substance of the kidneys, a fact which has been experimentally established. The treatment is, of course, in most instances of salivary calculus extremely simple. In many cases the orifice of the duct can be sufficiently stretched with a probe to allow the extraction of the calculus with any small convenient scoop; and where this cannot be done a small snip with a scissors gives ready access. It is only in exceptional instances that anything more is required. The third case was of this kind; its deep situation, its prominence in the neck, its consistence and figure, and its evident connexion with the hyoid bone led at first to the conjecture that the swelling was a fibroma springing from the periosteum or from the fascial structures attached to this bone, and determined the external incision for its removal. With the experience of this case, marked by so strong a tendency to the renewed formation of stones, the writer would be disposed in like circumstances to advise complete extirpation of the gland

CASE 1. *Salivary calculus near the root of the tongue occasioning an apprehension of cancer.*—A woman forty-two years of age, in robust health, and a great walker, was sent to me on June 20th, 1882, by Mr. J. Swindell of Finchley for an opinion as to the nature of a swelling in the floor of her mouth, the persistence of which had occasioned her anxiety. This was a very definite, hard, movable, oval knot about 1 centimetre long by 0·5 centimetres wide, lying close beneath the mucosa, between the right side of the tongue, near its root, and the mandible, below which latter it could also be felt externally. She said that one year previously she had had what was then thought to be an "inflammation of the glands of the neck." There was obvious painful swelling. It was feared that an abscess was forming. This, however, did not happen. The swelling diminished, it did not disappear entirely; but it returned some time later, and very recently it had much enlarged, causing her much local discomfort, and its persistence made her fear that it might be cancer. The characteristic hardness of the knot, together with its distinct outline and its mobility, implying absence of infiltration into the parts around it, proved it to be a salivary calculus. Assured of its harmlessness, as its removal at the moment was inconvenient, she wished this deferred for a few days. Not long after she had seen me the little stone escaped into her mouth through a small breach in the mucosa. This soon closed, and she remained free from any further trouble in that part. The chemical constituents of the stone were, as usual, calcium phosphate and carbonate, with some animal matter.

CASE 2. *Very large salivary calculus producing conspicuous external swelling and giving rise to suspicion of cancer.*—On Nov. 3rd, 1892, in consultation with Dr. Pearson of Kensington, I saw a gentleman aged fifty-seven years who was in some anxiety of mind about a swelling in his mouth. In the floor of the mouth, apparently involving the left side of the root of the tongue and passing backwards below the lower end of the anterior faucial pillar, between the tongue and the mandible, there was a considerable swelling, which was also conspicuous externally behind and below the mandibular angle. The mobility of the tongue was slightly hampered, and swallowing was difficult and painful. In the buccal mucosa overlying the swelling there was apparent opposite the wisdom tooth a small orifice from which a little bead of pus was seen exuding. A probe passed through this opening entered a sinus and struck an object so hard that no doubt of its being a salivary calculus was possible. The opening having been enlarged, an oval calculus measuring 3·5 centimetres in its length and 1·8 centimetres in its short axis was extracted. Its surface was tuberculated and indented with a series of sinuous furrows. The patient mentioned that during several years he had noticed a lump in the left side of the neck. Its size had greatly varied, and recently it had become much larger and had been painful, making swallowing rather difficult. After removal of the calculus the surrounding swelling soon subsided, and as yet he has continued to be free from further trouble.

CASE 3. *Large salivary calculus formed in relation to the deep part of the submaxillary gland; repeated fresh formation of stones; abscesses.*—On Oct. 7th, 1872, a woman aged twenty-two years was admitted into the Middlesex Hospital bringing with her a note from the "family doctor" stating that he thought she had "ranula." When her head was turned strongly towards the left a swelling of the size of a walnut was conspicuously apparent below the right angle of the mandible in the submaxillary region. When she held her head straight this lump disappeared from view. It moved with the hyoid bone in the act of swallowing. It did not bulge up in the floor of the mouth or push up the tongue, as is usual in ranula, but it could be felt through the buccal mucosa when the finger-tip was pressed down deeply between the root of the tongue and the angle of the jaw. Its consistence suggested a mass of white connective tissue or of cartilage. The patient related that the swelling was first noticed by her about six years previously, and that it had on several occasions swollen so much as to make swallowing difficult and to threaten suffocation; she also said that these fluxionary swellings subsided upon the occurrence of a discharge into the mouth. The above physical characters, and the anatomical relations of the swelling, did not well accord with "ranula." The recent suffocative attacks urgently required the removal of the tumour—assuming this to be their cause; and its connexion with the hyoid bone indicated that its extirpation could be better effected through an external incision in the neck than through the mouth. On Oct. 10th the tumour was dissected out. Its isolation was unattended with difficulty, except at its deep surface, which was found to be firmly attached to the great cornu of the hyoid bone. In detaching from this latter the deep part of the tumour the edge of the knife was unexpectedly arrested by a stony mass, which proved to be a salivary calculus enclosed in a thick fibrous capsule blended with the enlarged and indurated deep point of the submaxillary gland. The wound soon closed, and the patient went home on the 25th. The calculus weighed 76 grains. Its outline was roughly trihedral. Its outer surface was finely tuberculated and convex, and its deep surface was smooth and hollow. A section showed concentric zones of deposition around a small central black speck, which proved to be a minute fragment of woody tissue. Upon interrogating her the patient replied that she had never been aware of a splinter of wood getting into her mouth, and she added that she and her people had attributed the occurrence of the swelling to a blow on the neck by a snowball. Six years later, on Nov. 25th, 1878, the patient re-entered the hospital, having then, occupying the submaxillary triangle and also extending downwards below it, a tender, red, œdematous swelling, in which there were two openings discharging pus. The swelling moved with the hyoid bone in swallowing. She said that after the operation in 1872 she remained free from any inconvenience during four years, at the end of which time an abscess again formed, which broke near the angle of the jaw. Later some small stones were discharged from this opening. At the end of one year this abscess closed, but three months subsequently it reopened, and it had not since closed again; a little matter daily escaped from it. The other opening, which was lower than that just mentioned, was made, she said, by a surgeon one week before she re-entered the hospital. Both these sinuses were laid open, and another calculus—1·5 centimetres long by 1 centimetre wide—was extracted. They were then thoroughly scraped with a sharp scoop. On Dec. 19th, the wound being then nearly healed and quite superficial, she was allowed to return home. Seven years later, on Dec. 21st, 1885, the patient again returned to the hospital. She now

had a very considerable swelling involving the entire submaxillary triangle from the sterno-mastoid to beneath the chin, reaching also below this down to the level of the lower border of the thyroid cartilage, and likewise ascending behind the mandibular ramus towards the ear, the most prominent part being near the mandibular angle. The skin was red and fixed, and swallowing was difficult. The tongue could not be fully protruded; its normal mobility was lessened, and its dorsum was thickly furred. The right faucial parts were congested and very swollen. Most of the teeth on the right side were wanting. The patient mentioned that after leaving the hospital in 1873 the wound continued healed, and she experienced no trouble in the part for four years, when swelling returned, an abscess broke, and small pieces of stone were noticed in the discharge. On Dec. 22nd, the day following her re-entering the hospital, an abscess broke. Next day this was thoroughly opened up, and two calculi—the larger of the size of a haricot bean—were removed. Through the cavity enclosing them the external wound was now found to communicate freely with the floor of the mouth through an ulcerated opening in the latter. These measures were followed by speedy disappearance of the inflammatory swelling, and on Dec. 29th, by which time the external incision had nearly closed, she was permitted to go home. The faucial swelling had entirely subsided, and the tongue had become freely mobile.

NEUROLOGICAL FRAGMENTS.

BY J. HUGHLINGS JACKSON, M.D. ST. AND., F.R.S.,
PHYSICIAN TO THE HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

No. II.

CONGENITAL PTOSIS.—INNERVATION OF THE UPPER EYELID.

IN THE LANCET of July 15th, 1893, attention was especially directed to the movement of the lids in shutting the eyes; the orbiculares were weak in the two cases of ophthalmoplegia externa, with ptosis, there mentioned. Hence there has to be considered the movement of opening the eyes with regard to those cases and to cases of ptosis of other clinical kinds. That in those two cases the levatores palpebrarum were paralysed (that paralysis being part of the ophthalmoplegia externa) owing to atrophy of cells of nuclei[1] will be taken for granted. It has to be asked: Are there other sources of supply for the movement of raising the upper lid?

It was pointed out by Mr. Marcus Gunn[2] that in a case of congenital ptosis, on the left side, there were upward movements of the fallen lid when the patient moved his jaw to the right by action of the left external pterygoid muscle, although there was no voluntary power of raising the lid.[3]

Swanzy writes:[4] "A remarkable condition is *congenital ptosis with associated movements of the affected eyelid during the action of certain muscles*. There are only about fifteen cases of this on record. They all agree in this particular, that the upper lid affected with ptosis—most commonly the left lid—is raised when the mouth is opened. A synchronous contraction of the pupil has been noticed in some cases, while in some the elevation of the lid occurs also with a lateral motion of the jaw, and with deglutition. It is probable that in these cases the levator is not wholly supplied by the third nerve, but partly, also, by nerve fibres which take their origin in the nucleus of the fifth pair and which also supply the external pterygoid and digastric muscles."

The two cases of ophthalmoplegia externa (mentioned under No. 1) are, of course, of a very different kind from the cases of congenital ptosis recorded by Mr. Marcus Gunn and other ophthalmic surgeons, but it was thought well to test the two patients in the direction indicated. In one of them (J. C——) no associated movements of the fallen upper lids occurred upon the patient making movements in which the masticatory muscles were in any way engaged. In Dr. Ferrier's patient there was, I must now mention, paralysis of the masticatory muscles, as well as ophthalmoplegia externa, and thus, perhaps, no associated movements of the upper lids could theoretically be expected in that case when *efforts* were made to move the jaws. A committee (Dr. Gowers, Dr. Stephen Mackenzie, Mr. Lang,[5] Dr. Abercrombie, and Mr. Gunn) appointed to report on the case, Mr. Marcus Gunn records,[6] expressed the opinion that the levator palpebræ in the patient "is innervated both from the nucleus of the third nerve and from the external pterygoid portions of the nucleus of the fifth nerve." In regard to this opinion on Mr. Gunn's patient's case the conjunction in Dr. Ferrier's patient of paralysis of the masticatory muscles with ophthalmoplegia externa (ptosis included) has significance.

If Mr. Gunn's observations and the subsequent observations of other authorities on cases of congenital ptosis and the conjunction of ophthalmoplegia externa with the paralysis of the masticatory muscles in Dr. Ferrier's patient warrant the inference that the nucleus of the fifth as well as that of the third nerve supply the levator palpebræ, there exist two sources of innervation of that muscle from nuclei. In Dr. Ferrier's patient there seems to be a reason why the fallen upper lids do not rise when the patient makes efforts to move his jaws; but why the fallen upper lids do not rise on movements of the jaws in the case of J. C—— is not clear on the inference mentioned. Of course it is possible that the cells of the pterygoid portion of the fifth nucleus, giving off fibres to the levator palpebræ, have in the case of J. C—— become atrophic, as well as cells of the nucleus of the third nerve, also giving off fibres to that muscle. I submit that it is desirable to make further observations according to Mr. Gunn's method on ophthalmoplegia externa in its different, especially in its earliest, stages. It is possible—I make no prediction—that there may be a stage in this malady when energetic movements of the jaws may be associated with movements of the fallen lid. It may, however, be that in normal people the nucleus of the fifth nerve does not in any degree innervate the levator palpebræ.

No. III.

ON THE USE OF COCAINE IN THE INVESTIGATION OF CERTAIN ABNORMAL MOTORIAL CONDITIONS OF THE EYES.

There is another nervous supply of the eyelids—Müller's muscle—by the cervical sympathetic nerve. Cocaine stimulates the endings of the sympathetic nerve[6] in certain parts of the palpebro-ocular musculature. It dilates the pupil and widens the ocular aperture. In some persons it produces Graefe's sign, a symptom often present in Graves' malady. As this phenomenon is found in some apparently healthy people, eyes should be examined for it before the instillation of cocaine. Cocaine is not only a drug of value as a mydriatic and anæsthetic, it is useful also as a means of investigation. Some time after paralysis of the cervical sympathetic nerve the drug does not act on the eye, the nerve endings in question being wasted. As mentioned under No. I., cocaine, whilst it dilated the pupil in J. C——, did not afterwards produce any widening of his ocular apertures. It certainly produced both effects after instillation by Dr. Hawkes, about six weeks before Dr. Wood's first investigation by the drug. Dr. Wood has made several trials of the drug on J. C——. There is no fault in the solution used. It acts well on other patients, dilating their pupils and widening their ocular apertures. Moreover, it dilates J. C——'s pupils, although it does not widen his ocular apertures. It would be premature to conclude anything in this regard—hasty to conclude that cells of a nuclear region, representing Müller's muscle of the eyelids, have in J. C—— atrophied, and that the endings of the sympathetic nerve corresponding to those cells have consecutively wasted, during the six weeks' interval. But, whilst not concluding, it is fair to make the hypothesis that fibres for Müller's muscle of the eyelids by the cervical sympathetic nerve arise from the same general nuclear region as do the fibres by way of the third nerve for the muscles moving the eyeball and for the levator palpebræ and also those (Mendel) by the portio dura nerve for a partial supply of the orbicularis palpebrarum. It seems pretty clear that the point of emergence of a nerve trunk from the central nervous system is a very untrustworthy clue to the nuclear origin of the several fibres making it up.

---

[1] The terms "nucleus" and "anterior horn" are morphological expressions; it is hoped that we shall in time be able to speak anatomically—that is, of centres for movements—of different muscles as they are associated in different operations.

[2] Transactions of the Ophthalmological Society, vol. iii.

[3] See On Congenital Ptosis with Associated Movements of the Affected Lid, by Waller N. Sinclair, Ophthalmological Review, March, 1893; Associated Movements of the Upper Eyelid and Lower Jaw, by W. M. Beaumont, THE LANCET, April 5th, 1893; and Synchronous Movements of the Upper Eyelid and Lower Jaw, by Simeon Snell, Sheffield Medical Journal, July, 1893.

[4] Diseases of the Eye, fourth edition, p. 151.

[5] Loc. cit.

[6] Jessop, Proceedings of the Royal Society, 1885, p. 441.

At any rate, cocaine should be used by the neurologist *as a means of investigation* in various ocular affections. I have suggested this line of investigation to Dr. Wood—that cocaine should be employed as an aid to ophthalmoscopy instead of the commonly used mydriatics, and that observations should be made on the eyes cocainised. As cocaine, at least in the doses commonly instilled, does not greatly impair accommodation and impairs it temporarily, there is, so far, an advantage to the patient in its use. Cocaine, we have found, acts on the eyes of tabetics presenting the Argyll-Robertson phenomenon as it does on the healthy. We have, however, made few trials and await the results of further researches. In this connexion the following quotation is of interest and value. "The pupils [in tabes] are often very small ('spinal myosis'), especially when there is loss of reflex dilatation from the skin, a loss which seems to be accompanied by atony of the radiating fibres supplied by the sympathetic."[7]

There are other abnormal conditions of the intra-ocular musculature of tabetic patients. (1) Suddenly occurring immobility in all ways of one pupil (with dilatation), and loss of accommodation of the same eye; (2) loss of pupillary reactions (to light and during accommodation) of both eyes with persistence of accommodation itself; and (3) the same as (2) in but one eye. Cocaine should be used as a means of investigation in these rarer cases also. It should be used in cases of congenital ptosis in order that it may be ascertained whether or not there is paralysis of Müller's muscle of the eyelids as well as of the levator palpebræ.

It will be important to note any difference there may be in the effects of cocaine on the eyes according to age. Since writing this Dr. Wood and I observed that cocaine, dropped into one eye of a man seventy-one years of age, dilated the pupil and widened the ocular aperture.

No. IV.

ON THE PUPIL AND EYELIDS IN CASES OF PARALYSIS OF THE CERVICAL SYMPATHETIC NERVE.

I find that some medical men think it strange when a pupil (iris) has been found to act to light and during accommodation that a further investigation should be made as to its mobility. In a case of paralysis of the cervical sympathetic nerve the pupil continues to act to light and during accommodation, but it does not dilate in a dim light when shaded. When a patient must keep his bed the investigation required is not easy, especially if the state of both pupils is in question, as in cases of fracture-dislocation of the spine crushing the cervical cord completely across below the emergence of the phrenic nerves. If, however, as when the cause of the paralysis is a wound in the neck, the patient is able to go about, and when but one eye is in question, it is found that the pupils are nearly equal when he is facing the bright light of a window; but when he is turned round the affected pupil does not dilate as its fellow does. This was well exemplified in the case of a patient under the care of the late Mr. Beck in University College Hospital. The pupil of the affected eye did not dilate, as did the other, when his back was turned to the window, nor did it dilate on faradaic excitation of the skin; and Dr. Head found that cocaine had no action on the pupil or on the lids of the faulty eye.

Long ago Mr. Hutchinson drew attention to the peculiarities of ocular paralysis from lesion of the cervical sympathetic nerve; his researches have not, I think, received due attention from neurologists. Those who ignore the particular point he urges will find nothing wrong with the movements of the pupils in the cases of fracture-dislocation of the cervical spine mentioned, if the pupils are of equal size and if, as they would, they act to light and during accommodation; thus a symptom of great interest would be missed. After speaking of paralysis of the "dilating" fibres of the pupil in such cases, Mr. Hutchinson wrote:[8] "This is a very important and valuable symptom. It occurs only when the injury is either in the cervical or upper dorsal region. The pupil is neither dilated nor much contracted, it is simply unable to dilate. Unless carefully examined, the myosis, being so slight in degree, may easily be overlooked. The plan is to examine the eyes in shade and you will then find that the pupils remain just of the same size as they were when exposed to light. Sometimes one pupil is more definitely contracted than the other."[9]

There is paralysis of the cervical sympathetic nerve in cases of rupture of the brachial plexus, in certain thoracic aneurysms, and in wounds and tumours of the neck. I have noted it in a case mentioned[10] of stab of the back in the cervical region; one lateral half of the cord was supposed to be divided, because there was paralysis of motion on the side of the lesion and loss of sensation on the other: I wrote[11]: "There was contraction of the pupil and slight ptosis on the side of the injury, and therefore on the side of the loss of motion." There is paralysis of the cervical sympathetic nerve in some cases of syringomyelia; with regard to this I refer the reader to Bruhl's important work.[12]

In the Bowman Lecture[13] I briefly referred to what I then called a case of progressive muscular atrophy in which there was abnormality of one pupil, believed to betoken paralysis of so-called dilator fibres given by the cervical sympathetic nerve to the iris and to Müller's muscle. I quote a passage from the lecture following a paragraph suggesting a homologous series of progressive muscular atrophies.

"Here is an important ophthalmological matter. It is well known that with destructive lesions of the brachial plexus we have smallness of the pupil on the side of the injury. Ferrier finds that, in the monkey, and presumably it is so in man, the dilator fibres of the iris, contained in the cervical sympathetic, are derived from the anterior root of the *second* dorsal nerve. In the monkey the second dorsal sends a communicating branch to the brachial plexus, and so it does in most cases in man (Cunningham). Now, the second dorsal root (Ferrier) supplies also the intrinsic muscles of the hand. In one case I have observed a small pupil (inability to dilate when shaded) in a case of progressive muscular atrophy at a stage when the hand muscles were almost solely those atrophic. Here, again, the neurologist has common ground with the ophthalmic surgeon."

Since I saw this patient I was puzzled by finding no such pupillary abnormality in cases of progressive muscular atrophy (Duchenne-Aran type) where the intrinsic muscles of the hand are atrophic. Thus, in a man under my care in the London Hospital, admitted on Jan. 9th, 1892, for progressive muscular atrophy, the intrinsic muscles of both hands, among other muscles, were altogether wasted. Yet I found that both his pupils dilated well in a dim light when shaded, as well as reacted to light and during accommodation. (Mr. Waren Tay confirmed the observation.)

The other day I came across the notes of the case I mentioned in the Bowman Lecture, and now think it is most likely a case of syringomyelia, and not, as I said in the lecture, one of progressive muscular atrophy. I find it recorded (1884) that, in addition to atrophy of the intrinsic muscles of the right hand and extensors of the right forearm, the patient could not distinguish heat and cold on his right arm (no note of exact area), that he complained of numbness on the right side of his neck above and behind the ear, and said that his right eye felt dry. He also said that he could not raise the right upper eyelid as well as the left. I regret very much that I have not any notes more definite and extensive on these matters. The patient's pupils acted well to light and also during accommodation. Having regard to the researches of Ferrier mentioned in the quotation I have given, I thought there might be inability of the right pupil to dilate when shaded. Mr. Waren Tay was kind enough to examine the pupils for me. I copy what he wrote in the notes of the case. "Looking straight before, opposite a window, on a rather dull morning, the left pupil is slightly larger than the right. The left pupil acts well when shaded. The right pupil scarcely dilates at all (when shaded). Vision = $\frac{6}{9}\frac{6}{6}$ J. 1. The discs seem quite normal."

When that patient was under my care it did not occur to me to use cocaine as a means of investigation. As said under No. III., if the cervical sympathetic nerve has been paralysed for a long time the eye on that side would not be influenced by cocaine, the pupil would not become dilated and the ocular aperture would not be widened. Cocaine should be put in the normal eye as well as in the suspected eye, and any difference in their behaviour under the drug should be noted.[14]

---

[7] Gowers: Diseases of the Nervous System, second edition, vol. i., p. 407.

[8] London Hospital Reports, vol. iii., 1866, on Dislocations and Fractures of the Spine, p. 364.

[9] See also Bowlby, Injuries and Diseases of Nerves, p. 111.

[10] London Hospital Reports, vol. i., 1864, p. 374.

[11] Op. cit. [12] On Syringomyelia, pp. 51 and 52.

[13] Ophthalmology and Diseases of the Nervous System, delivered Nov. 13th, 1885; Transactions of the Ophthalmological Society, vol. vi.

[14] Fibres ultimately passing in the cervical sympathetic nerve to palpebro-ocular structures may not go through anterior horns, and if they do they may not atrophy, in Duchenne-Aran progressive muscular atrophy, as the cells of those horns do. The effects of cocaine instilled into the eyes in cases of progressive muscular atrophy and of anterior poliomyelitis (the hands being affected) may throw some light on the exact course of the fibres in question.

ANÆMIA OF A GRAVE CHARACTER OCCURRING DURING PREGNANCY.

BY THOMAS OLIVER, M.A., M.D GLASG., F.R.C.P.LOND.,
PHYSICIAN TO THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

THERE is a form of anæmia that occasionally develops during pregnancy which is not fully described in the text-books and to which the younger members of the profession may not have had their attention sufficiently directed. It is in my experience rather a fatal disease. Its pathology is obscure. It may possibly be simply an exaggeration of ordinary anæmia or of the hydræmia met with in women who are pregnant. If so, it would thus be related to pregnancy much in the same way as pernicious and simple anæmia are to each other. All the problems concerned in the making of blood in health have not been solved. If the physiology of hæmopoiesis is not quite understood, it is scarcely to be expected that much should be known of its pathology. Notwithstanding this, the report of the following cases may not be without interest to the readers of THE LANCET.

CASE 1.—It is now some years since I was first brought into contact with the disease—my early acquaintance with it being through Dr. Russell of Heaton, who had under his care a woman thirty-five years of age, whom I saw a few days after her confinement. She was suffering from extreme anæmia and exhaustion, and was so prostrate that she could scarcely be moved for fear of her fainting. When Dr. Russell was called see her a few days before her confinement grave doubts were raised in his mind as to the possibility of the patient ever going through the processes of labour. She passed through these safely enough, and although at the time she lost very little blood she never rallied, but died a day or two after I saw her.

CASE 2.—A little more than a year ago I saw, with Dr. Andrew Smith of Whickham, a woman aged thirty-two years in the sixth month of pregnancy. She was one of the most anæmic women I have ever seen. Her lips were dry and the face, feet and hands were œdematous. Three years prior to this she had had an attack of pleuro-pneumonia, and although she had made a fairly good recovery it was admitted that she had never quite regained her usual health, there being always a very pronounced degree of pallor present. In my notes I find it stated that she had married seven months previously, that she menstruated once afterwards, and that she was at the time I saw her apparently in the sixth month of pregnancy. There was complaint of vomiting and increasing debility, of dropsy of the extremities and great dyspnœa, of palpitation, fainting and headache, and within the previous two days of bleeding from the nose. She had no appetite. The pupils were semi-dilated, and the pulse was 120, "thready," and "running." The tongue was clean, but the lips were dry and covered with sordes. The lungs were healthy. The heart's apex-beat was felt at the nipple, where a soft systolic murmur was heard, as well as over the pulmonary artery and the aortic orifice. The second sound of the heart was healthy. There was no rise of temperature. The uterus extended about one inch above the umbilicus. Fœtal movements could be seen and felt, as well as rhythmic contraction of the uterine wall. A loud placental bruit could be heard. The urine had a specific gravity of 1010, and although albumen was carefully searched for on several occasions none was found. The urine was also free from sugar and blood; urea was present to the extent of 5 6 gr. per ounce. The patient was very ill. It seemed to be impossible that she could live to the end of the normal period of her pregnancy. We carefully discussed the question of the induction of premature labour; but whilst Dr. Smith and I believed that this was her only chance, we were so fully convinced that she would die during the process that we could not recommend the operation. At the time we felt inclined, by means of beef-tea enemata and liquid nourishment, to sustain her strength and fortify her for any eventuality. Five days afterwards Dr. Smith received an urgent message to go to the patient. On his arrival he found her in labour, with the "os" well dilated. I cannot do better than quote almost verbatim his own letter. "I was called on Nov. 23rd at 2 A.M. and found the patient in labour. The os uteri was well dilated. I ruptured the membranes; the head descended at once, and as the patient was very weak and breathless I put on the forceps and delivered. The child—fully six months developed—was dead and had been so for a few days. I gave ergot, and in a few minutes the placenta was completely expelled. The uterus contracted well. There was practically no bleeding. The patient was extremely exhausted; but after a subcutaneous injection of ether she rallied. The pulse improved, but the breathing was never good. Later in the day it was apparent that she was losing ground; the dyspnœa became aggravated, and, in spite of feeding, stimulants, and rectal injections, she died the same evening, fourteen hours after labour. Under these circumstances I feel sure that the artificial induction of labour would have been more speedily fatal."

CASE 3.—Only a few weeks had elapsed after the death of the patient referred to in Case 2 when I was asked to see in consultation another of a similar character. The patient, however, had been confined. She was twenty-seven years of age and had been delivered of her second child nine weeks previously. There was very marked anæmia. It appeared that she had enjoyed excellent health in the early months of her pregnancy; but towards the end it was observed by her friends that she was losing her colour and becoming extremely pale. Her confinement was an easy one. There was no hitch of any kind, and for a time she seemed to progress satisfactorily, so much so that her medical attendant began to discontinue his visits at the usual time in such a case. Although there was no great hæmorrhage at the time of the confinement there was subsequently a far too excessive secretion of milk—a point of very great importance in the pathology of the disease and explanatory of the anæmia of women suckling infants. Three weeks after the medical attendant had ceased to visit the patient, he was again called to see her. He found her extremely anæmic, with a temperature of 103° F.; there were no rigors or sweatings, but a history of repeated vomiting and extreme constipation. It was considered advisable to arrest the galactorrhagia and to give the patient iron. No improvement, however, followed. On the day of my visit her temperature was 101°, there was a feeling of syncope, the vomiting had ceased, the pulse was 110, and the tongue was moist. There was a well-marked venous hum heard in the neck; a systolic murmur could be heard over the pulmonary artery and the aortic and mitral areas. The lungs were healthy. The liver presented nothing remarkable and the area of splenic dulness was slightly increased. Per vaginam the uterus was found to be healthy and involuted; in the cul-de-sacs nothing could be felt, there was no inflammatory deposit. The urine was not albuminous. The rectum was loaded with hardened scybala. There was no œdema of the feet. She was ordered enemata, so as to have the bowel thoroughly washed out; cascara and albuminate of iron were also given. For a few days after this the patient seemed to improve, but she gradually relapsed, the anæmia becoming more profound, and she died fourteen days after our consultation.

Remarks.—That the blood undergoes certain alterations during pregnancy is a fact that has been long placed beyond dispute. It is several years now since attention was directed to the plethora of pregnancy. The enlarging uterus with its widening vessels and the increased functional activity of the maternal organism, especially in the later months of utero-gestation, necessitate an augmentation in the volume of the blood, particularly if the utero-placental vessels are to be filled without the other organs becoming anæmic. Drs. Spiegelberg and Gschleiden have demonstrated this increase in the volume of blood in dogs during the latter months of pregnancy. A similar change occurs in women. With an increase in the volume of the blood there is marked impoverishment of its quality. There is a noticeable reduction in the number of red corpuscles with a diminution of albumen; whilst the white corpuscles are increased, as also is the amount of water, for the serum is found to be deficient in solids. There is, therefore, hydræmia as well as plethora. Under all circumstances, but particularly in pregnancy, it is an easy transition from the physiological to the pathological. A large number of girls who are the subjects of chloro-anæmia fail to become mothers after marriage. In those who conceive, the early months of pregnancy are not necessarily characterised by the presence of more serious symptoms than are met with, under similar circumstances, in their healthier sisters. It is in the later months of pregnancy that symptoms become more pronounced, especially if the appetite fails. Even then the pregnancy may go to term, and the act of parturition be accomplished

without any unusual loss of blood. The convalescence of a chloro-anæmic mother is at times apt to be tedious, for the blood has to undergo a process of involution just as the uterus does. Faults in the blood antecedent to and during pregnancy do not favour an early return to health. Some writers maintain that in anæmic women the separation of the placenta is accompanied by a severe loss of blood. Such is not my experience; it certainly is not borne out by what occurred in the three cases above detailed. In the second case, which I have reported at length, a brief history of the disease I am describing is given. The patient was anæmic, to begin with. She passed through the early months of pregnancy fairly well, but all the time an anæmia was developing, which ultimately became so profound that the friends of the patient were struck by her extreme pallor. In addition, there was repeated vomiting, the patient complaining of great breathlessness, syncope, and exhaustion. The symptoms tend to become aggravated as the pregnancy advances. They thus give a serious character to the illness, which is frequently fatal. Dr. Spiegelberg[1] says that of twenty-five cases collected by Graefe almost all died, most of them rapidly and very shortly after labour; only one patient was cured, and two are spoken of as having improved. I am inclined to regard this disease as being something more than ordinary anæmia or the simple hydræmia of pregnancy. How far it resembles pernicious anæmia I am not prepared to say. As the cases occurred in the country I had no means of examining the blood microscopically. Their pathology is obscure. The blood-forming organs were apparently at fault. There seemed to be deficient formation rather than increased disintegration of red corpuscles.

The source from which the hæmoglobin of the blood obtains its iron is one of the recondite problems of physiology. Fresh interest in this question has been aroused by the researches of Bunge and the recent Goulstonian lectures of Dr. Halliburton. In his "Physiology and Pathological Chemistry" Bunge, quoting from Schmidt, says that in human blood there is 0·051 per cent. of iron—this being almost exclusively in the form of hæmoglobin—and that the quantity of iron in the blood of an average man is about thirty-five grains. From where does the hæmoglobin obtain its iron? The food of most vertebrates contains no hæmoglobin, and it is completely absent in the food of herbivora. Carnivora living upon vertebrates are the only animals that introduce hæmoglobin into their alimentary canals. Even under these circumstances the hæmoglobin is not formed from that which is present in the food, for the hæmoglobin of animal tissues is disintegrated in the alimentary canal through the action of digestive ferments, the iron separating as hæmatin and coming away as such in the fæces. It is unlikely, therefore, that the hæmoglobin in animal food is the source of that which is met with in blood. Bunge is just as sceptical in regard to the inorganic salts of iron being considered as a source, although it is admitted that they are administered freely in anæmia, and with benefit. It was formerly believed that hæmoglobin might be formed by synthesis from an iron salt and albumen. Bunge is not only opposed to this opinion, but states that he has grave doubts as to whether iron, as such, is absorbed at all. He believes that, owing to the action of sulphur compounds and of other reducing agents in the intestine, the compounds of iron are converted into sulphide of iron and eliminated with the fæces, and that all compounds of iron, including the albuminates, meet with this fate. According to Bunge it is neither from animal food nor from the inorganic salts of iron that the hæmoglobin of our blood obtains its colouring matter. Another source must therefore be looked to for it. Are there any precursors of hæmoglobin? Yolk of egg contains no hæmoglobin, but it must contain a precursor of it, for when the egg is hatched hæmoglobin is abundantly present in the blood of the chick. This, therefore, is one source. The blood of the newly born child contains hæmoglobin, which it could only have obtained from its parent, and in the milk of the mother there are to be found all the materials requisite to feed the growing child and maintain a healthy condition of its blood. Chemical examination shows that the iron in the yolk of egg is in the form of nucleo-albumen. If this is the storehouse from which the blood of the chick draws its hæmoglobin, so must the blood of the pregnant woman be the source of the iron for the fœtus in utero. The ash of the newly born animal contains iron far in excess of that met with in the adult. It is estimated that there is six times more iron in the ash of a puppy than in the milk of the mother which feeds it. The young animal, therefore, acquires the store of iron necessary for its growth before its birth through the placenta, and after birth through the milk of its mother.

Given the case of an anæmic woman becoming pregnant and who is unable to make even sufficient hæmoglobin for herself, how great must be the demands made upon her blood-forming organs as time goes on. In the early months of pregnancy hardly any demand is made, and consequently at that time nothing arises to create anxiety, for the placental circulation has not been established; but as each month passes the mother keeps giving to the fœtus by this channel increasing quantities of iron to form its hæmoglobin. There is therefore a drain upon the mother which her reserve powers can scarcely meet. It is thus rather than by a disintegration of red blood-corpuscles that I seek to explain the development of this grave form of anæmia during pregnancy: it is the giving away of iron by the maternal organism to the growing infant in utero. Spread, as this process is, over a period of months and with a drain increasing as time goes on, this is met in the healthy woman by increased appetite and by improved blood-forming powers; but in the anæmic woman there is enfeebled ability on her part to form hæmoglobin, and, when to this is added the hydræmia that is gradually developing, an explanation is found of the serious nature of this form of anæmia in pregnancy. All my cases proved fatal, in spite of the most careful treatment and attention.

The remark which I have already made in regard to the presence of a large quantity of iron in the milk of the suckling woman will explain the relationship of anæmia and galactorrhagia. Regarding pregnancy as a cause of this form of anæmia, the question of the induction of premature labour naturally suggests itself. In Case 2 it was most carefully discussed by Dr. Smith and myself. On the one hand, it was only too apparent that the patient could not live until the normal termination of her pregnancy; and, on the other, it was just as clear that, whilst in the induction of premature labour lay the hope of saving her, the strength and general condition of the woman were such as to arouse in our minds the gravest doubts as to the successful issue of the case. We found ourselves placed in a most embarrassing position. The induction of premature labour was called for, and, much as this is admitted to be in such cases a necessary and justifiable line of treatment, it was in our patient neither possible nor practicable. Transfusion of blood would in all probability not have given any better result—it was then too late; besides, cases in which it has been tried have shared a similar fate to my own.

Ellison place, Newcastle-on-Tyne.

[1] Transactions of the New Sydenham Society, vol. cxix, p. 339.

THE RELATION OF DUST IN HOSPITALS TO TUBERCULOUS INFECTION.

BY G. A. HERON, M.D., D.P.H. GLASG., F.R.C.P. LOND.,
PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST;
AND
T. H. ARNOLD CHAPLIN, B.A., M.D. CANTAB., M.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO THE CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.

DURING the last winter we carried out a series of inoculation experiments with a view to testing the power of certain substances to carry tuberculous infection. The material used was of such a kind, and was taken from such places, that one might with fairness say it would be capable of conveying tuberculous infection. We were anxious to test this question for two reasons: (1) because recent work, the results of which have been published, leads one to suppose that substances (and more particularly dust) which have been in more or less direct contact with tuberculous persons are in no slight degree factors in the causation and spread of tuberculosis; and (2) because this being so, we wished to ascertain whether or not the placing of tuberculous individuals under antiseptic rules as to the disposal of their expectoration and other tuberculous discharges minimised the chance of infection from dust and other material which had been in contact with tuberculous patients. The substances

used were, with one exception, taken from the City of London Hospital for Diseases of the Chest, Victoria Park. The sources of the material were as follows: (1) dust taken from the main outcast shaft of the hospital; (2) dust from the out-patient waiting-rooms; (3) dust from beneath a large fixed table in one of the wards; (4) dust from the pathological workroom; (5) expectoration loaded with tubercle bacilli which had been allowed to stand for eight months; and (6) dust from a house in which no tuberculous patient had lived for forty years.

In order to estimate the value of these several kinds of dust and material, it will be well to give a short account of the normal conditions of the places from which the material was collected. No. 1 dust was gathered from the tower of the hospital, which acts as the upcast shaft. So far as is known this shaft has never been swept; the dust has, therefore, accumulated for upwards of forty years, and during that period there have been over 20,000 patients admitted to the wards of the hospital. No. 2 dust was gathered from the floors and from behind the inside shutters of the windows. The floor is scrubbed once a week and is swept every morning; but the shutters are never in use, and when the dust was taken from behind them it required considerable force to open them; therefore, it is improbable that they had been disturbed since the last painting of the room, which was done three years ago. No. 3 dust was taken from under the centre table in the large ward of the hospital. This dust had certainly been there for a year, and during a great part of that time the value of the treatment of tuberculosis with tuberculin was being tested in this ward, and, for reasons that will be stated hereafter, the expectoration was not disposed of under antiseptic rules. No. 4 dust was collected from the floor and cupboards of the pathological workroom. The floor of this room is scrubbed every week, but some of the cupboards had certainly not been dusted for upwards of three years. The material in No. 5 consisted of expectoration in which it was ascertained that there were many tuberculous bacilli. It was placed in a large unstoppered glass jar, so that there was free access of air to it. After thus standing for six months it was used in the experiments. No. 6 dust was collected from the rafters of a table which had stood in a house in the country for forty years. Only the fact of the table breaking permitted of the dust being gathered. The village in which the house is situated is peculiarly free from tuberculosis, and it is believed that no tuberculous patient had been in the house for upwards of forty years.

Differences exist as to the rules laid down for the disinfection of the expectoration in the several places from which the dust was taken. Thus, the dust taken from the main air shaft of the building comes from the upcast flues in the wards. For the last five years every patient has been required to expectorate into spittoons, of which each contain six ounces of a saturated solution of carbolic acid; patients are further cautioned against spitting into their handkerchiefs; and, altogether, there is not much risk of the air of the ward becoming contaminated. In the out-patient waiting-room the same rules are inculcated, but with not nearly so much success on account of the want of supervision which must exist there. These waiting-rooms are used by an immense number of patients—as many as 50,000 attending during the year. The dust which was taken from beneath the table in the large ward had certainly a chance of becoming contaminated, for during the investigation of Koch's method of treating tuberculosis no carbolic acid was placed in the spittoons. This was done so that the sputum could be the more easily measured and inspected. The dust from the pathological work-room must have been always in contact with drying sputum; and ever since the room has been in use there has never been any attempt made to keep the specimens of expectoration moist; and then, again, a large number of slides with mounted preparations of sputum containing tuberculous bacilli are kept in drawers for a considerable time. Indeed, bearing in mind the nature of the work to which the room is devoted, it could only with great difficulty be placed in a thoroughly antiseptic condition.

To sum up, then, the sources from which the material for experiment was taken, we may say that the dust represented by Nos. 2, 3, and 4 was undoubtedly (from the nature of the rooms from which it was taken) such as would be quite capable of carrying tuberculous infection. In No. 1 dust there was less likelihood of this being the case, and in No. 6 it could not be reasonably urged that it had ever come into contact with tuberculous discharge of any kind. In No. 5 dust there were, of course, great numbers of tuberculous bacilli.

We adopted two methods of inoculation. In some cases we made a mixture of the dust with sterilised water and injected the solution thus made into a guinea-pig by means of a large Koch's syringe. In the greater number of our experiments we made an incision in the flank of the animal with a sterilised knife, and then introduced a piece of the dust by means of sterilised forceps into the subperitoneal tissue. Each operation was carried out under the full effect of an anæsthetic. The wound was then allowed to heal without the use of any special precautions. In all experiments guinea-pigs were used. In all we inoculated and examined 100 guinea-pigs. Of these, thirty-one were kept three months and forty-two for two months before they were killed. Twenty-seven died after the inoculation: twenty of them between one and ten days after the operation, and seven between thirteen and thirty days. The cause of death in these twenty-seven guinea-pigs was either intense inflammation spreading from the site of inoculation or septicæmia. In one instance it was due to tuberculosis.

In the whole series of experiments we were able to meet with evidence of tubercle in only two instances. One of these guinea-pigs had been injected with dust taken from the main air-shaft of the building, and died fourteen days after the operation. At the post-mortem examination the left lobe of the liver was found to be studded with recent grey granulation. The other instance was met with in a guinea-pig which had been injected with a mixture of dust in water, taken from the same source as the preceding. The animal was killed three months after inoculation and was found to have disseminated tubercle of the liver. In one other guinea-pig a nodule formed at the site of inoculation, but at the post-mortem examination no naked-eye evidence of tubercle could be discovered in the nodule, and tuberculous bacilli were not found when it was examined by means of the usual colour test and the microscope.

The question as to whence comes the tuberculous infection which kills from one-seventh to one-fourth of civilised mankind has been to no inconsiderable extent answered by the great work of Koch. Since he taught us the truth, as we now know it, about the pathology of tuberculosis little more than eleven years have passed. It must, we think, be admitted that, although much excellent work has been based upon the foundation then laid, we can point to nothing outside of Koch's work, if we except Cornet's, which goes far to show us how the infection of tuberculosis is conveyed from tuberculous to healthy persons.[1] Cornet's researches in quest of facts touching this subject were instrumental in inducing the Prussian Minister of Public Worship to set on foot the inquiry which brought to light the tremendous mortality prevalent among the Catholic nursing orders in Prussia, a mortality which was as regards its enormous proportions due practically altogether to deaths resulting from tuberculosis. These statistical inquiries are all the more valuable and important because they are the result of the work of civil servants of the Prussian State who undertook and completed them without any preconceived notions or prejudices concerning their outcome.

The work of Koch and of Cornet tends to lay much weight on the unusual liability to tuberculous infection of those who nurse phthisical patients without taking proper precautions to prevent the spread of infection from the sick person. The outcome of the statistical inquiry instituted by the Prussian Minister of State practically demonstrates, in our opinion, the truth in this respect of the experimental work of these two men. It was with a view of testing in how far the hospital with which we are both officially connected might be responsible for the spread from it of infective material that we undertook the short series of experimental observations the results of which we now publish. To us it seems not unworthy of remark that only two of the hundred guinea-pigs we operated upon were found to be infected by tuberculosis. In the wards and out-patients' rooms of a hospital like ours, into which surgical cases are not admitted, the source of tuberculous infection, so far as our knowledge now reveals it, is the dried expectoration of the patients. In the wards of the hospital this source of danger can be, and to a great extent is, kept under control, and so it is minimised. Therefore, we did not expect to find in our wards evidence of the marked presence of tuberculous infection. It is hardly possible that

[1] We do not know what light may be thrown on this point by the coming report of the Royal Commission on Tuberculosis.—G. A. H. and A. C.

expectoration would there be allowed to dry; for the sisters in charge of the wards and the senior nurses well know the dangers which lie in tuberculous sputum, and are on the outlook for any infringement of the ward rules which require the patients to expectorate only into the spittoons placed by the side of every bed. In the out-patients' department those who wait to see the physicians on duty are, of necessity, kept under a supervision which is neither constant nor rigid; nevertheless, it is improbable that expectoration would be allowed to dry on the floors or benches of the out-patients' waiting-rooms. We were, therefore, in doubt as to whether we should find evidence of the presence of tuberculous infection in the dust of these rooms; but we should not have been surprised had we found it there. In the dust taken from beneath the fixed table in one of the wards we did expect to find evidence of the presence of tuberculous infection. The table is very large; and its shape is such as to make the thorough cleaning of the floor below it a matter of much difficulty. Yet we found in the dust below it no evidence of the presence of tuberculous infection. This, we think, is probably due to the fact that the spittoons in use in the ward in question were under constant and careful supervision during the time when the value of tuberculin in the treatment and diagnosis of tuberculous disease was being worked out in the hospital. Therefore, although no special precautions were taken to disinfect and keep moist the spittoons in this ward while tuberculin was undergoing investigation there, it was most unlikely that the drying of the sputum in these spittoons could have gone on to any dangerous extent, for they were emptied and cleaned with perfect regularity whenever they contained a considerable quantity of sputum, and, in addition to that, once in every twenty-four hours at a fixed time. We are surprised to find that we obtained no evidence of the presence of tuberculous infection in the dust collected in the pathological workroom. We can offer no explanation of this fact, but we think it worthy of being recorded and kept in mind with a view to obtaining some light on it by future experiments. Septicæmia killed so many of our guinea-pigs which had been inoculated with tuberculous sputum three months old that it is not possible for us to record any other observation resulting from this part of our work, because most of the animals died within a week of receiving the injection of stale sputum, so that tuberculosis had not time plainly to declare itself. The few guinea-pigs which survived the operation were killed by chloroform inhalation and examined, and of these not one gave any evidence of having developed tuberculosis. This number was, however, too small to be of any real value; yet it is not unimportant to note the fact that five guinea-pigs which had received injections of sputum three months old, and teeming with tuberculous bacilli, were two months thereafter free from tuberculosis. It was only from the dust taken from the main outcast air shaft of the hospital that we obtained evidence of the presence of tuberculous infection in the course of these experiments. We would remark, in this connexion, that the dust from this source had been submitted to two influences, which, taken together, may possibly have had some favouring influence on bacterial survival and growth in the air shaft. In the first place, the constantly changing air in the outcast shaft is always well warmed in its passage through the wards of the hospital. In the second place, the bacterial life in the outcast shaft is never exposed to bright sunlight, and, indeed, it can hardly be said to be exposed to light at all.

It is very easy to attach too much importance to the results of research of this kind when it deals with only one hundred experiments. We, however, think we are justified in stating that the outcome of our work shows that in the wards and out-patient department of a hospital, where a very moderate amount of care is taken to prevent the spread of infection from the expectoration of tuberculous persons, there is, within the limits of our observations, surprisingly little evidence of the escape of tuberculous bacilli to become a source of infection. We venture to hope that, so far as it goes, the result of our work may help to encourage the rigorous enforcement of those precautions, of the meaning of which every phthisical patient ought to have special knowledge, and which are intended to prevent, and evidently do in a measure prevent, the spread of infection from tuberculous sputa. The real value of the hospital and sick-room precautions which our knowledge of the true pathology of tuberculosis teaches us to take in treating cases of that disease, will be shown in the results of the work, not of one or two only, but of many observers. The gauging of this real value is complicated by the fact that of several matters which closely touch the solution of the question we are still very ignorant. For example, when pathogenic bacteria are cast out of the body of their victim, and are thus obliged to submit for a time to the chances of a non-parasitic existence, we know that their killing power becomes, in such circumstances, a very uncertain quantity. The uncertainty lies in the direction of loss of virulence. A good illustration of this loss of killing power is to be observed when the anthrax bacillus is taken from an animal's body and cultivated, for a fortnight or so, in gelatine of the ordinary composition. Now, although it is true that the tuberculous bacillus probably retains its virulence at least as well as any other organism does when it is living a non-parasitic life, still it must be remembered that there exists no experimental proof to guide us where human beings are concerned, and, therefore, it is not known that it follows, that because tuberculous bacilli will kill a guinea-pig, or a rabbit, after the micro-organism has been lying in sputa which have been drying on a floor for, say, six weeks—we say it does not follow that, because the bacilli can do this, they could therefore, in like circumstances, kill a man. It is known that the anthrax, which will surely kill a guinea-pig, is not by any means certain to kill an ox. In like manner there exists no proof that the tubercle bacillus which is taken from drying sputum, and which is surely fatal to the guinea-pig, will also kill a human being. It may be highly probable that it will do so in favourable circumstances, but that is the utmost that can be safely said, within the limits of our present knowledge; however, as we have just said, this very important part of the subject bristles with difficulties, and it can be settled only by the labours of several observers. Exact observations, founded on experiments properly conducted, will decide the real value of the precautions in hospital and in the sick-room to which we have referred; and we must wait for much more information than we yet have from those sources before we can feel sure that the recent fall in the death-rate from tuberculosis in England is due to the wider and better knowledge of the pathology of that dire disease which we owe to Koch's great discovery. We have certainly good reason to hope and to believe that this may be so; and strong cause for urging, upon all whom it may concern, the importance of teaching those who suffer from tuberculosis the duties which they owe to their healthy fellow men.

SUBCONJUNCTIVAL HÆMORRHAGE LIMITED TO THE OUTER PART OF THE EYE,

A SIGN OF FRACTURE THROUGH THE CORRESPONDING ORBITAL PLATES.

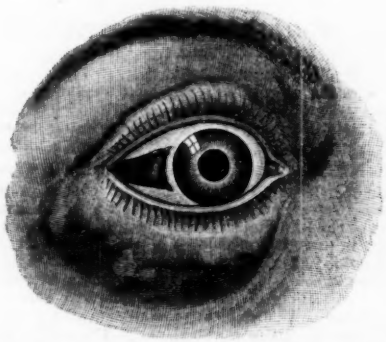
BY RUTHERFORD MORISON, M.B., F.R.C.S.,
SENIOR ASSISTANT SURGEON, ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

THE accompanying illustrations are made from two patients recently under the care of Dr. Hume in the Royal Infirmary, Newcastle-on-Tyne. I am indebted to him for permission to make use of his cases. The drawings illustrate a frequent condition—a roughly fan-shaped hæmorrhage in the outer aspect of the eye-ball. This follows injury to the fore part of the skull and is, I believe, associated—at all events in the great majority of instances—with a fracture through the orbital plate corresponding to the eye affected. Fig. 1 represents the right eye, which alone was affected, in the third week after the accident. Fig. 2 represents both eyes of a patient on the seventh day after the accident. The diagnosis made in both, on admission, was fracture of the anterior fossa; but as recovery followed in each case this opinion was not verified by post-mortem examination. Three cases in which I had the opportunity of making a post-mortem examination after noting during life the presence of this lesion have served to convince me that this sign is of considerable importance. Hence the present communication. The following are notes of my cases.

CASE 1.—A boy aged nine years was knocked down by a cart and stunned. On the following day he was running about, appeared to be well, and made no complaint. Ten days

later he died of pneumonia, apparently the result of cold and unconnected with the injury. At the time of his death his right eye was in the condition seen in Fig. 1. At the necropsy a fissured fracture was seen to extend from a little

FIG. 1.



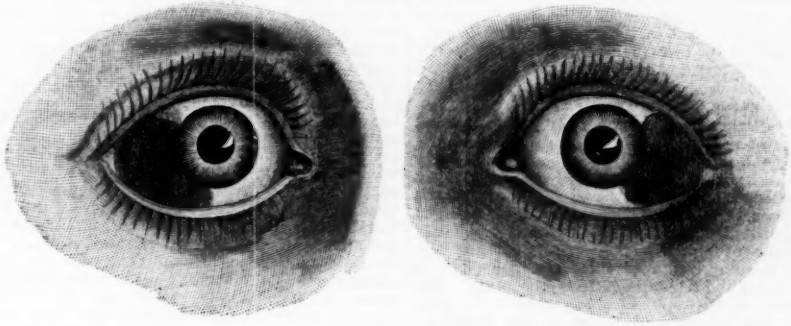
above and behind the right external angular process across the right orbital plate of the frontal bone.

CASE 2.—A youth aged eighteen years fell from a scaffolding into the hold of a ship (over 30 ft.) and, in addition to an injury to the head, sustained internal damage, from which he died on the seventh day. A fan-shaped hæmorrhage was present on the outer part of his right eye at the time of his death. At the necropsy a fracture in the right frontal bone was seen to extend from the left of the middle line above into the right orbital plate below.

CASE 3.—A man aged forty-five years was admitted to the Royal Infirmary, Newcastle, with a head injury, being unconscious and bleeding from his nose. In two days he recovered consciousness and for two weeks appeared to be going on well. Two days before his death he complained of violent headache and began to vomit. There was no rise of temperature till four hours before his death. Post mortem a fan-shaped hæmorrhage was noticed on the outer side of both eyes, as in Fig. 2, though in a more advanced stage, as in Fig. 1. An unhealed wound was present over the upper part of the right side of the frontal bone. Under this a fracture was found extending downwards and running through the right orbital plate, across the ethmoid, into the left orbital plate for about half an inch. A V-shaped fracture extended from the centre of the fissure through the right orbital plate into the internal table forming the posterior wall of the frontal sinuses. The inner table was loose, and the frontal sinuses were full of pus, thus accounting for the purulent meningitis which had caused death.

Remarks.—The shape of the hæmorrhage is not due to the pressure of the lids, for in the patient from whom Fig. 2 is taken, both eyes were closed for some days by extravasation into the lids. Neither is it a hæmorrhage limited by the sheath of the external rectus. Though it is easy to say what it is not, a satisfactory explanation as to why it should be limited to this particular region is more difficult. The presence of a quantity of loose cellular tissue in the outer part of the orbit, and the fact that there is more room here than elsewhere, may account for a small hæmorrhage showing itself in this special position, the shape in the later stages, as seen in Fig. 1, being largely determined by the pressure of the lids.

FIG. 2.



DEATH FROM HÆMORRHAGE INTO THE PERICARDIUM.

BY JOHN GORDON, M.D. ABERD.,

ASSISTANT TO THE PROFESSOR OF MATERIA MEDICA, ABERDEEN UNIVERSITY, AND PHYSICIAN TO THE ABERDEEN GENERAL DISPENSARY.

THE following case presents some aspects of interest which contrast with the cases recorded in THE LANCET of Dec. 2nd, 1893, by Dr. Fraser; and for these reasons, as well as for the intrinsic interest of the case, it seems to be worthy of record. Such cases are by no means common, and they present a variety of symptoms that may easily mislead one in the diagnosis.

A man thirty-three years of age, hard-working, steady, and careful in all his life habits, had no history of any special illness. There was no specific disease nor rheumatic tendency. He had been attended two years ago for a small corneal ulcer. For about two months before the fatal attack he had complained of being more tired than usual at the end of his day's duty; but this he attributed to some extra evening work. A week before his last illness he had a fainting fit which lasted for a few seconds only; extra work was again blamed. There was no pain complained of then nor at any subsequent time. He did not seek medical advice. At 7.10 P.M. on Saturday, Nov. 25th, my friend Dr. W. R. Pirie was called to see him and by the kindness of Dr. Pirie the following notes are supplied. The patient had fallen down on the pavement in front of Dr. MacGregor's house; he was carried into the hall and laid down. He was unconscious and breathing deeply; his face was very pale and the lips were slightly blue; the pulse at the wrist was very feeble, being almost imperceptible; the body was covered with cold, clammy perspiration. On examination of the heart by auscultation the sounds were distinct and apparently normal in character. In a few minutes after the administration of a stimulant (whisky) he partially recovered consciousness and was able to give his name and address, and gradually consciousness entirely returned. Dr. Macgregor now saw him, and to him he stated that he had hurried into town to keep an engagement. At that moment he said he was feeling sick and vomited some food. He became very restless, tossing his limbs about, but after a short time he was quiet. After watching him for half an hour he was able, and expressed himself anxious, to be sent home in a cab. He was fit, with slight assistance, to walk into his house, to undress and go to bed, where he almost immediately involuntarily passed a motion, and a little later this was repeated; he also passed urine. He now began to complain

of intense pain in the abdomen. Dr. Pirie visited him at 8.45 P.M. He found him still pale, with a feeble pulse, but the heart-sounds were distinct. He expressed himself as suffering from intense pain, which he referred to the abdomen. He was extremely restless, tossing about in bed; he had a feeling of dizziness. There was no evident interference with the breathing nor was pain in the chest present. After the application of warm fomentations he felt easier for a short time. The abdominal pain, however, again returned with increased severity, and at 9.20 P.M., after stating that he knew he was dying, he suddenly expired.

Necropsy, Nov. 27th.—Rigor mortis was well marked; the body was well nourished. There was a large quantity of fat in the abdominal and thoracic walls. The abdomen showed that about three feet of the upper part of the small intestine were markedly congested, and the redness of this portion of the jejunum contrasted markedly with the other portions of the intestine. No ulceration was present. The lungs were healthy. The pericardium was found to contain about 20 oz. of dark-coloured blood, including one large clot and a few small ones. The pericardium looked distended *in situ*, and there was a spouting of blood when it was cut. The heart was heavily laden with fat. But in position neither in it nor in the aorta was there evidence of any rupture. The pericardium, heart and the vessels were removed, and on the passing of aniline blue through the chambers a leakage was seen above the origin of the aorta. Examination of this part revealed a small aneurysm about the size of an ordinary hazel nut, with rough, ragged edges, shelving cone-like to a blunt point, in which there was a minute opening sufficiently large to admit a pig's bristle. The aneurysm was situated three-quarters of an inch above the anterior semilunar valve. A number of small square-shaped atheromatous patches were also visible in the aorta in its whole thoracic length. The muscular tissue of the heart was examined by Dr. George Dean, assistant pathologist, Aberdeen University, for fatty degeneration, but that condition did not exist. The muscular fibres of the heart's chambers were poorly nourished.

Remarks.—Interesting points in the case are the following: the absence of any symptoms to indicate the condition of the patient; the fact that there was no history of any pre-existing disease with which to associate the condition; and the definite length of time that the patient lived after the rupture of the aneurysm into the pericardium, for it seems to be evident that the first onset of the bleeding had taken place when the patient fainted at 7.10 P.M., and it is very likely that the bleeding continued till death took place at 9.20 P.M., two hours and ten minutes from the onset. The extreme smallness of the ruptured point is the explanation of this point. The reference of nearly all the symptoms to the abdomen was distinctly misleading, there being no dyspnœa nor cardiac pain, while the heart's sounds were fairly well heard till within twenty minutes of the patient's death. Earlier in the evening they were well heard. While the fact that the upper part of the small intestine was distinctly congested and inflamed indicated that a condition existed capable of producing the agony which he suffered. It is possible that the distribution of the vagus may assist in understanding this feature, because the stimulation caused by the pericardium enlarging from the hæmorrhage irritated that portion of the vagus which, through the plexus mesentericus, conveys impressions to the small intestine, while further stimulation from the gastric plexus had increased the irritation of the bowel. At all events, there had been no evidence of intestinal irritation till a short time after the hæmorrhage had taken place. Then he referred to the abdomen as the seat of pain. That there was increased peristalsis was shown by the involuntary passage of two motions. It is to be remembered that the splanchnic contains the inhibitory fibres that are easily exhausted by a venous state of the blood, thus giving rise to increased peristalsis, and also that stimulation of its sensory fibres gives rise to very painful sensations. Death in this case seemed to have been caused by failure of the heart.

Union-street, Aberdeen.

ON the recommendation of the Marquis of Headfort, Lieutenant of the county, the Lord Chancellor has been pleased to appoint Mr. J. Ringwood, L.R.C.P.I. and L.R.C.S.I., Kells, to the Commission of the Peace for the county Meath.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CASE OF TREPHINING FOR MENINGEAL HÆMORRHAGE.[1]

BY JOHN IRVING, M.B., C.M. GLASG.,
SURGEON TO THE HUDDERSFIELD INFIRMARY.

A man thirty-five years of age, whilst painting the roof of the Huddersfield Town Hall on June 1st, 1893, lost his balance and fell a distance of about fifteen feet. His fall was somewhat broken. He was brought at once to the infirmary. There were a superficial abrasion of the scalp over the vertex, a swelling of the left temporal region, and a marked ridge corresponding in position to the left temporal ridge. There was some depression just behind the left angular process of the orbit and pressure in this position elicited movement between portions of the cranial bones. The lids of the left eye were swollen and ecchymosed. The globe was prominent, with general fulness of the orbit. There was no wound. The pupil in the left eye was larger than in the right and quite fixed. The patient was unconscious and insensible to sound but sensitive to light and pinching. He did not vomit. The pulse was 110, small, soft and regular. Respiration was quiet, regular and not slowed. He lay motionless on his back with the left leg semiflexed at the knee and hip. The right leg was fully extended and rotated outwards, being quite flaccid. Passive motion of the limb roused the patient, and he made some struggles to turn over on to his left side. There were no reflexes on either side and no apparent paralysis of the arms or face. Coma rapidly supervened and deepened, so that no response (motor or other) could be elicited by any means. Fracture of the skull with some depression was diagnosed, and I decided to trephine. Reflecting downwards a fairly large flap, about equal portions of the bone of the forehead and temple were exposed, and a fracture was discovered extending in various directions, to ascertain the full extent of which I had to make further incisions into the scalp upwards and backwards. None of the portions of fractured bone were much depressed. I removed a disc from the frontal bone, the anterior margin of the trephine hole being within an inch and a half of the middle line. I sawed across the base of one of the fractured portions of bone, and by means of the elevator was able to expose a considerable surface of the dura mater, and found a large clot of blood extending downwards and backwards. In order to reach the lower border of the clot I had to remove two more discs of bone with the trephine, one in front of and the other behind the coronal suture. I was then able to take away a fairly large piece of the parietal bone, and the extent of the hæmorrhage was fully exposed. On removal of the clot there was found to be bleeding from several points, the chief being from a branch of the middle meningeal artery. It was found impossible to tie the bleeding points, so I packed the surface of the dura mater with iodoform gauze. Over this the scalp was then stitched with a few silkworm sutures. On putting the patient to bed his pulse was very feeble and his condition generally seemed to be far from hopeful. He rallied, however, after Mr. Naylor, the assistant house surgeon, had given him an enema of salt-and-water. On the following morning he was able to answer questions sensibly, but remained pretty constantly in a drowsy state. The strips of iodoform gauze were removed on the third day after the operation. There was then no return of the bleeding, and I introduced what sutures were required, in addition to those already put in, to bring the edges of the scalp accurately together. The wound healed well. During the operation there was no pulsation of the brain, but that had returned when the plugs were removed. For the first week his condition varied little; he always answered the first question put to him correctly, but gave the same answer to every succeeding question. By the end of June he was quite himself again, and his recovery was uninterrupted. He returned to work in the beginning of August and is now quite well. A point of considerable interest in the case is the large amount of bone removed. The opening in the skull measured 4½ in. by 3½ in., and extended

[1] A paper read at the Leeds and West Riding Medico-Chirurgical Society on Dec. 1st, 1893.

from a point 1½ in. from the middle line in front to within 3 in. of the point of junction of the lambdoid sutures behind. The lower border of bone removed was within 2 in. of the zygoma, whilst its upper border reached to within an inch of the middle line. There is now a depression of ¾ in. at the centre of the cicatrix.

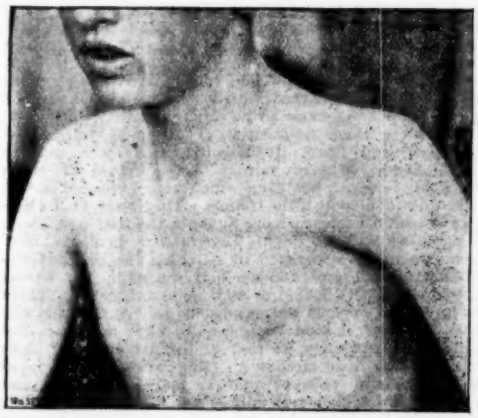
Greenhead-road, Huddersfield.

ABSENCE OF STERNAL ORIGIN OF THE PECTORALIS MAJOR.

BY E. H. YOUNG, M.D. DURH., L.R.C.P. LOND., M.R.C.S., D.P.H.

As this abnormality does not appear to be of very frequent occurrence I think that the following notes may prove of interest; the engraving was taken from a photograph.

A youth sixteen years of age consulted me in August last for cough and difficulty of breathing. On examination I found slight bronchial catarrh, and was at once struck by the



appearance of his chest. The sternal origin of the pectoralis major on the left side was quite absent, as is very well shown in the engraving. The only other malformation he presented was partial webbing of the fore and middle fingers of the left hand. He stated that as far as he remembered his chest had always been in the same condition, and he experienced no weakness on the affected side. As the engraving shows, the clavicular portion on the left side is not quite so well developed as the corresponding portion on the right; but, on the other hand, the left deltoid was more developed than the right. I have since seen a relative of the patient, who informed me that the condition was noticed by the mother during infancy. No history of maternal "impressions" was obtained.

Okehampton.

NOTES ON FIVE CASES OF SKIN DISEASE TREATED BY THYROID GLAND.[1]

BY JOHN F. GORDON DILL, M.A., M.D. CAMB., &c.,
ASSISTANT PHYSICIAN TO THE SUSSEX COUNTY HOSPITAL.

CASE 1. *Psoriasis.*—A man twenty years of age had his first attack of psoriasis five years ago after recovery from an attack of scarlet fever, and he said that the eruption covered his body. The disease reappeared in January, 1893, on the limbs and trunk, and continued—sometimes better, at other times worse—until Oct. 3rd, when I first saw him. The eruption was then very thick upon the arms and legs, with scattered patches on the trunk. From Oct. 3rd to Nov. 7th he was treated with iodide of potassium internally and chrysophanic acid ointment locally, but the improvement was only slight. From Nov. 7th to Nov. 14th the ointment was continued, but the iodide was discontinued, and he was given one tabella of thyroid extract[2] twice a day. In this week the improvement was more marked. From Nov. 14th to Nov. 28th the chrysophanic acid ointment was discontinued, and he took three tabellæ of thyroid extract in the day. At the end of this time the improvement was very striking; the red bases of the patches had become light pink in colour, many of the scales had disappeared, and there was no extension of the disease. On Dec. 5th, under the same treatment, the scales were completely gone, and all that was left was a slight discolouration of the skin where the disease had appeared. Except for occasional dyspepsia he was in good general health during the treatment.

CASE 2. *Psoriasis.*—A man fifty-three years of age had suffered at intervals from psoriasis during the past nineteen years. I first saw him on Oct. 24th, 1893, and the attack had begun about a fortnight previously. The disease was very general, and the patches were covered with thick scales. From Oct. 24th to Nov. 3rd he was treated with iodide of potassium and chrysophanic acid ointment; the improvement was not very marked. On Nov. 3rd this treatment was wholly discontinued, and he was given one tabloid of thyroid extract three times a day until Nov. 14th. During this time he improved very rapidly, and no extension of the disease took place. From Nov. 14th to Dec. 5th he took two tabellæ three times a day with steady improvement, and at the latter date the scalp and limbs were nearly clear. A few scales still existed in places on the trunk, but they were very thin, and the subjacent patches were healthy looking. The patient has had no discomfort from the remedy, and says that nothing has ever acted so rapidly upon his disease.

CASE 3. *Psoriasis.*—A girl fourteen years and six months old had her first attack in October last. The disease showed itself on her arms, and in spite of treatment by chrysophanic acid ointment, and with iodide of potassium, and subsequently arsenic internally, it spread very rapidly, until the whole surface of the skin was thickly studded, except the face, the palms, and the soles. About Nov. 16th, however, a general dermatitis of the face developed, with slight febrile disturbance, but there was no formation of scales. On Nov. 21st the treatment was wholly changed, and one tabella of thyroid extract was given three times a day. The result was astonishing, for in three days (Nov. 24th) there was marked improvement, and no further spread of the disease had taken place. On Nov. 28th the change was still more striking; the swelling of the face had subsided and the skin was peeling off, with a suspicion of a silvery appearance about the flakes. On Dec. 5th the face, scalp, and neck were clear, and the disease was very much less, both in extent and in severity, over the body and limbs. No discomfort was experienced from the remedy.

CASE 4. *Psoriasis.*—A young woman twenty-three years of age has been several times under my care at the hospital during the past four or five years, suffering from psoriasis. She came to the hospital on Nov. 7th with a bad attack, and I ordered one tabella of thyroid extract three times a day. Until Nov. 21st there was decided improvement, but after that date the disease remained stationary for a time, and early in December it began to spread again. Meanwhile she complained of headache, general malaise, and dyspepsia, and I therefore thought it wise to discontinue the thyroid treatment.

CASE 5. *Acne rosacea.*—A woman thirty-eight years of age had suffered for years from acne rosacea, which affects the whole face with the exception of a margin of about an inch in width all round. The disease had hitherto resisted all treatment. She has taken three tabellæ of thyroid extract a day from Nov. 3rd to Nov. 14th and six from Nov. 14th to Dec. 5th without any discomfort. There is, however, but little improvement, except that the affected area has become paler in colour.

Brighton.

[1] The first three patients were shown at the meeting of the Brighton and Sussex Medico Chirurgical Society on Thursday, Dec. 7th, 1893.

[2] Each tabella is equivalent to five grains of the gland.

DERMOID CYST DELAYING DELIVERY.

BY W. J. DEWAR, M.B., C.M. ABERD.

ON July 18th I was called by a midwife to assist her at a confinement. The patient had been in labour for about twelve hours without making any progress during the last two or three hours. This confinement was the sixth, and the

patient had suffered from dragging pains in the lower part of the abdomen for some months before. On examination I found the presentation to be normal, but below the head in the posterior wall of the vagina a swelling was felt which became tense during a pain. In examining per rectum no tumour could be found. The head being well down and the tumour the evident cause of delay, I gave chloroform and applied short forceps with no result. I then obtained the assistance of a colleague, who applied long forceps, which proved successful. Just before the birth of the head a tumour was protruded per rectum, hanging by a pedicle. The subsequent course of the labour was normal. The tumour was tough and firm and was attached by a long fatty pedicle, which was tied and cut, the proximal end being replaced in the rectum. For six weeks the patient suffered from subacute peritonitis, the temperature being irregular, varying from normal to 102° F. At times diarrhœa was severe and pieces of tissue came away. There was no severe pain at any time except on the second day after the birth, and after six weeks the patient got up and slowly recovered, no evil result remaining.

On examination the tumour was found to weigh half a pound and to measure five inches by three, being an inch and a half thick. It proved to be a dermoid cyst, consisting of a mass of long, tangled hairs and cheesy matter mixed. The frequency with which dermoid cysts are associated with the ovary makes me believe that this was an ovarian cyst which had found its way into Douglas's pouch. It had then no outlet when the head advanced, and it must have torn a way through the anterior wall of the rectum.

Hill-terrace, Arbroath.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. BARTHOLOMEW'S HOSPITAL.

CHOLECYSTOTOMY FOR EMPYEMA OF THE GALL-BLADDER WITH IMPACTED CALCULI; REMARKS.

(Under the care of Mr. BOWLBY.)

THE operation of cholecystotomy has for some time been a recognised one, and a surgeon has now no longer the same hesitation in proposing the operation as was formerly the case. The indications for the operation and the steps to be taken are fully set forth in the text-books on operative surgery; but there is always an interest attaching to those cases in which a stone is firmly fixed in a duct and difficulty is experienced in removing it. Removal with forceps, combined with external manipulation, washing out by means of a stream of warm water, needling the calculus through the wall of the duct so as to break it up, and even direct incision of the duct wall and extraction through the opening have all been practiced with success. There is, however, a natural reluctance to undertake any procedure which involves wounding the duct, for although the escape of a small quantity of bile into the peritoneal cavity may be harmless, there is no doubt that the risks of a fatal peritonitis ensuing are thus increased. The evidences of suppuration in the gall bladder in this case were apparently absent, the operation being undertaken on account of the enlargement and pain on movement.

A woman thirty-six years of age was admitted into Stanley Ward, St. Bartholomew's Hospital, on Jan. 23rd, 1893. Her history was that her general health had always been good, that she had been married for fourteen years, had borne four children, and had never suffered from any abdominal pain until October, 1892. She then had a "violent cold" with pain in the abdomen and right shoulder, and was a little jaundiced. These symptoms subsided in a few days, but recurred six weeks later, and, as the abdominal pain became more severe, she consulted Mr. J. F. Steedman, of Streatham, on Dec. 6th, who examined the abdomen and detected a swelling below the right lower ribs, which he believed to be a distended gall-bladder. Acting upon his advice, the patient subsequently applied for admission into the hospital. On admission the patient was found to be a well-nourished, healthy-looking woman, with a good deal of abdominal fat, but no distension of the abdomen. On the right side of the abdomen, a little to the right of and above the umbilicus, there was an elongated swelling. It was placed with the long axis from above downwards; was rounded, smooth, and firm; moved on respiration, was dull on percussion, and could not be pushed into the lumbar region. The iliac and hypogastric regions were normal. Examination by the vagina and rectum showed no evidence of pelvic disease. There was no jaundice, and the swelling was only slightly tender. There was no pain whilst she was in the recumbent position. The viscera were otherwise natural. Further questioning elicited no history of previous attacks of jaundice, of colic, or of passage of a gall-stone. The patient was kept under observation for a fortnight, but as she was quite unable to be up and about, and as no alteration took place in the swelling, it was decided to operate. On Feb. 13th, with the kind assistance of Mr. Lockwood, the abdomen was opened in the right linea semilunaris and the finger introduced, when it was at once evident that the tumour was a distended gall-bladder. It was dark red in colour, adherent to the neighbouring omentum, and very firm and elastic. An aspirator needle was next introduced and two ounces and a half of pus, slightly tinged with bile, were evacuated. The gall-bladder was then drawn out through the skin incision, and the wound was packed with sponges. The puncture was enlarged with scissors, and the wall of the gall-bladder was found to be very remarkably thickened. It was more than a quarter of an inch thick, and very dense and firm. It was occupied by a number of gall-stones of very various sizes. Most of these were easily removed, but some which were impacted in the cystic duct caused a little trouble. They were finally dislodged by manipulation with one finger in the abdomen and a scoop passed into the duct. The common duct was free. The operation was completed by stitching the edges of the gall-bladder to the peritoneum and the skin, the wound being dressed with iodoform and alembroth gauze. There was at first a copious mucous discharge. At first this was bile-stained, but it soon became quite clear and gradually diminished in quantity, so that at the end of a fortnight there was very little discharge. The patient made a rapid recovery without pain or pyrexia and left the hospital on March 17th with a very minute fistula. In the following October, as the fistula had not quite closed, she was again admitted, and the edges were pared and stitched, with the result that the minute aperture was soundly healed and the patient left the hospital in ten days. Since then she has had no further trouble. The calculi removed weighed 170 grains. The largest calculus weighed 90 grains and was as large as the end of the thumb. There were five other calculi of considerable size, and sixty minute ones forming a sort of biliary gravel.

Remarks by Mr. BOWLBY.—Considering the extreme frequency with which gall-stones occur in the gall-bladder, it is very seldom that any operation is required for their removal. It is evident that in the present case the stones had been present for a considerable time, as some of them had attained a large size, and the thickening of the walls of the gall-bladder must have been the result of a long-continued irritation. The occurrence of suppuration is unusual, and it is probable that the pus was but little irritating and contained little, if any, septic matter, for there was no acute inflammation of the neighbouring parts and no fever. It is nevertheless tolerably certain that in the absence of relief the result of the impaction of the gall-stones in the cystic duct and of the formation of pus in the gall-bladder would have been ulceration of the latter and suppuration in the tissues around. The distension of the viscus and the pain caused by any exercise were sufficient indications of the necessity for an operation. With regard to the operation itself there is little to be said, except that in dealing with the stones impacted in the cystic duct I found that it was easier to dislodge them by pressure and manipulation with the fingers outside the duct than by the passage of forceps &c. into its cavity. The absence of jaundice has been so often noted in this class of cases that it may seem superfluous to draw attention to its absence in the one under consideration, but it is still looked for and expected by so many observers in cases of distended gall-bladder with impacted calculi that I may perhaps be excused for again drawing attention to the absence of it in this case also.

LEEDS GENERAL INFIRMARY.

A CASE OF TRAUMATIC CYST OF THE PANCREAS, TREATED BY ABDOMINAL INCISION; REMARKS.[1]

(Under the care of Mr. WALTER HENRY BROWN.)

THE following briefly recorded case is an interesting addition to abdominal surgery, showing one of the very rare results of injury to that part of the body and the effects of treatment. There is a considerable resemblance between this case and some of the reported cases of peritoneal sanguineous cyst; in both there may have been a history of injury, and in both the shape and situation are similar and the appearance of the fluid is the same. There is also no doubt that many of the cases of sanguineous peritoneal cyst have not had their contents carefully examined from a chemical standpoint. As the lower limit in both is frequently situated an inch or two above or below the umbilicus, the history of the earlier tappings and the information given as to the condition of the abdomen before aspiration was resorted to after the first injury do not exclude one of these peritoneal localised collections. There is an important paper in the last reports of Guy's Hospital (p. 275) by Dr. Theodore Fisher on peritoneal sanguineous cysts and their relation to cysts of the pancreas, which those interested in this subject would do well to peruse. Dr. G. A. Sutherland[2] published the case of a girl aged eight years, in whom a large cyst quickly developed in the epigastric region after she had been run over. The contents, of dark-green colour, were removed, and she recovered. Mr. Littlewood[3] of Leeds had a man under his care who, a fortnight after an abdominal injury, developed a cystic swelling in the epigastric region. This was opened and drained, recovery resulting in two months' time.

A youth aged seventeen years was admitted into the Leeds General Infirmary on June 28th, 1893, suffering from great pain in the abdomen. The previous history was as follows. The patient was always healthy until March, 1893, when he was crushed between a locomotive and a truck, the buffers striking his abdomen. At the time he did not feel much hurt, but was taken to the North Riding Hospital at Middlesbrough. He stated that whilst there his body became much swollen, and on shaking him a splash was audible. He was tapped on the left side below the umbilicus, and seventy ounces of blood-stained fluid were obtained. Six weeks later he was again tapped in the same spot, and sixty ounces of fluid were withdrawn. He was then sent to the Cookridge Convalescent Home, and improved much in health until June 27th, when he fell from a horizontal bar. He immediately felt very ill and as if he were going to die; and he passed fæces whilst lying on the ground. He was brought at once to the infirmary. On admission he was suffering from severe attacks of pain of a shooting nature, and occurring every quarter of an hour, which were felt in the abdomen, across the epigastrium. These lasted for a few minutes and were followed by an interval of relief. The abdomen was swollen generally and dull on percussion, the walls being tense and tender. The patient had not passed fæces or flatus since his admission; there was no difficulty in micturition, but some pain was experienced; the urine was acid and contained some albumen, the specific gravity being 1039. On the following day, the patient having been put under ether, an incision an inch and a half long was made through the abdominal wall in the middle line just below the umbilicus. All bleeding having been arrested, the transversalis fascia and peritoneum were divided in turn, and the peritoneal cavity was opened, a large quantity of blood-stained serum—about five pints—escaping. A glass drainage-tube was introduced, and the fluid was allowed to drain away. The wound was closed round the tube in the usual manner. About three pints of fluid were drawn off. During the following night the patient slept soundly and appeared to be much better. In the morning the pulse was improved and slower (116), the temperature being 100° F. and the urine high-coloured. Large quantities of fluid still escaped from the tube. From this time until July 4th the condition of the patient was quite satisfactory, there being a fair amount of fluid drained away daily. On that day he complained of pain in the abdomen, which was distended in the upper part, and dull on percussion, with a distinct wave of fluctuation over the dull area. The centre of the swelling was situated rather to the left of the middle line. The temperature was 101°, the pulse being 130. On the next day the pain was intense, and vomiting of bright green-coloured matter occurred. On the following day he was worse, and it was decided to again open the abdominal cavity. An incision was made in the middle line above the umbilicus. After dividing the peritoneum the stomach presented in the wound, with the omentum below it. This was drawn upwards, and the wall of a tense cyst was exposed; it was punctured with a trocar, and about three pints of a dark-coloured fluid with a peculiar odour were withdrawn. Then the cyst wall was carefully stitched to the margins of the abdominal incision, and a drainage-tube was inserted. Specimens of the fluid drawn off were submitted to the Pathological Department and found to be simply blood serum, which was alkaline and contained no digestive ferments. From this time the patient did well. He was at first subject to severe attacks of acute pain in the abdomen, but no distension occurred. The temperature was normal, and discharge of fluid free. This on examination a week after the operation was found to give the reactions of trypsin, steapsin, amylopsin, and milk-curdling ferments. Vomiting and intense pain occurred three weeks after the operation, which was relieved by morphia. Nothing abnormal could then be detected in the abdomen. Eventually, seven weeks after the operation, the patient was discharged from Ida Hospital with the wound quite healed, no abdominal pain or tenderness, and in good general health.

Remarks by Mr. BROWN.—The foregoing case is, so far as I can ascertain, without parallel. Traumatic cysts of the pancreas have not infrequently been subjected to surgical treatment, with most gratifying results; but the case related above is not by any means a simple pancreatic cyst. The violent injury to the abdomen must have brought about two distinct lesions—one within the capsule of the pancreas, the other in the general peritoneal cavity. The very large quantity of fluid withdrawn at Middlesbrough clearly came from the general peritoneal cavity, and I think that the fluid withdrawn by my first incision had the same origin. The original crush, no doubt, so damaged the pancreas as to render it exceedingly liable to further injury. I therefore suggest, as a possible explanation of the physical conditions found, that the violent fall restarted the extra-pancreatic hæmorrhage, and that the sudden withdrawal of the fluid from the peritoneal cavity, by relieving the pressure, allowed the formation of the true pancreatic cyst, which I subsequently opened and drained. May I venture to emphasise strongly a point in dealing with swellings of doubtful nature within the abdominal cavity, which is well borne out in the present case: I refer to the exploration by incision instead of by puncture. After the viscera have been bruised, distended, and inflamed, adhesions form between organs in most unexpected places; thus, if I had used an aspirator in order to tap the tumour at its most prominent part, I should have transfixed the stomach, whereas the incision enabled me to recognise that organ and avoid a catastrophe. Whether it would have been advantageous to drain the cyst through the posterior abdominal wall, as has been suggested, I am unable to say, but I think that the method would not have proved any more satisfactory than the one pursued in this case.

[1] Notes of the case were read before the Leeds and West Riding Medico-Chirurgical Society in October, 1893.

[2] THE LANCET, Dec. 10th, 1892.

[3] THE LANCET, April 16th, 1892.

COUNTY HOSPITAL, DURHAM.

A CASE OF POISONING BY CHLORAL HYDRATE; DEATH.

(Under the care of Dr. SELBY PLUMMER.)

THE effects of chloral hydrate when taken in large amount are well shown in the description of this case. It is difficult to understand how a boy of the age of the patient could have obtained access to such a large amount of the drug, for the quantity taken must have been very considerable. One of the most interesting features of this case is the unusually high temperature recorded. In the well-known case recorded by Dr. Lievenstein the patient, who recovered after a dose of six drachms, developed a temperature of 103° F., but this was not sustained. In Dr. Plummer's case tracheotomy was performed at an early stage, and the temperature may have been due to the lung complications which caused death.

A boy aged sixteen years was admitted into the Durham County Hospital at 8 P.M., having about three hours previously swallowed an unknown quantity of chloral hydrate. He was quite unconscious, with complete and universal anæsthesia, and it was impossible to rouse him in

the slightest. The conjunctivæ were intensely congested, as were also the upper eyelids. The pupils were somewhat contracted and did not react to light. The extremities were cold and all reflexes were abolished. The pulse was weak, rapid, and irregular. The respiration (18) was very shallow. The bladder was empty, urine having been voided into the clothes. There was a marked odour of "chloroform" in the breath. Artificial respiration was at once begun, hot-water bottles being packed round the limbs and the battery applied to the chest. Hypodermic injections of ether and brandy were given, and shortly afterwards three minims of a 1 per cent. solution of nitro-glycerine were injected into the chest wall. The stomach-tube was passed, but nothing was withdrawn, and the washings from the stomach returned quite clear and free from odour or remains of food. Hot black coffee was thrown into the stomach and rectum, and oxygen was inhaled at frequent intervals. As much mucus collected in the throat, tracheotomy was performed at 11 P.M., after which the respiration improved in depth and regularity, and the patient perspired profusely. At midnight the temperature was 100° F.; artificial respiration, which had been continuous since admission, was no longer necessary. Four minims of liquor strychniæ were administered hypodermically, and oxygen was inhaled at intervals. The patient continued breathing regularly throughout the night, but was still profoundly unconscious. Next morning at 6 A.M. the temperature was 103°. At 8 A.M. the patient was in a syncopal condition; artificial respiration was employed, the electric battery was applied to the chest, and a hot coffee and brandy enema was administered per rectum. Three minims of solution of nitro-glycerine were injected hypodermically. The patient revived at 8.30 A.M.; the pulse was 110 and regular. At 10 A.M. an enema of brandy and beef-tea was administered. Twelve ounces of pale clear urine, free from odour, were withdrawn by catheter. The respiration was 20 per minute and of Cheyne-Stokes character. At 11 A.M. the patient was in a condition of syncope; artificial respiration was resorted to and continued till 3.45 P.M. The temperature was 102°. A turpentine enema emptied the rectum of a quantity of fæces. The odour of chloroform was still present in the breath. Three minims of solution of nitro-glycerine were injected hypodermically. At 3 P.M. the odour of chloroform was no longer detectable in the breath. Three minims of liquor strychniæ were injected hypodermically. At 4 P.M. the breathing was natural; but the patient was still profoundly unconscious. There was a good deal of mucus in the trachea, making it difficult to keep a full-sized tube clear. From now till 8 P.M. the patient's respiration (about 24 per minute) steadily improved, though he still required artificial respiration at times; the pulse was 20. At 10 P.M. the breathing was natural, and artificial respiration was not again necessary. There was considerable œdema of the lungs. The temperature was 102°. At 12 (midnight) the œdema of the lungs had increased. The temperature was 104·6°; an ice cap was applied to the head. At 6 A.M. next morning the breath sounds were only heard at the upper part of either chest, the lower halves being quite dull. The temperature was 104°. The urine drawn off by catheter was pale, clear, and acid; its specific gravity was 1023, and it contained no albumen. The patient was sinking, and he died at 9.10 A.M.

Remarks by Dr. PLUMMER.—The patient never recovered the slightest consciousness, living, as far as could be ascertained, about thirty-nine and a half hours after a presumably large dose of the undissolved crystals upon an empty stomach, a two-ounce phial with crystals of the drug adhering having been found on him. During the first twenty-four hours of treatment artificial respiration was necessary, in the aggregate, for twelve hours. The inhalation of oxygen was very evidently beneficial, but this could not be said of either the nitro-glycerine or the strychnine. The rapid rise of temperature and persistent pyrexia are noteworthy in the case, as is also the frequent necessity for artificial respiration after prolonged intervals of natural respiration. The pupils remained contracted throughout, as was also noted in a case recorded by Mr. Welch,[1] which recovered, whereas Guy and Ferrier say they become dilated after a time.[2] The quantity of the drug taken can only be guessed at, but evidence pointed to it being not less, and probably more, than one ounce, and circumstances pointed almost certainly to it having been swallowed in the crystalline form. Minor efforts to stimulate, as friction &c., were used as required.

[1] THE LANCET, vol. i., 1891. [2] Forensic Medicine, sixth edition.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Myoma of Uterus becoming Sarcomatous.—Cells of Endogenous Origin.—Tar Cancer.—Ruptured Sacculus of Bladder following Stricture.—Syphilitic Disease of Knee-joint.—Cholesterine Cyst of Kidney—Exhibition of Specimens.

AN ordinary meeting of this society was held on Jan. 2nd, Dr. PAVY, President, being in the chair.

Dr. LEE DICKINSON showed a specimen of a Tumour of the Uterus, which appeared to have begun as an ordinary fibro-myoma, but latterly to have assumed a character which could only be described as malignant or sarcomatous. It was taken after death from a single woman aged forty-eight years, who had noticed its growth for about twelve months, and who died exhausted through the discharge from it and the symptoms of pelvic pressure to which it gave rise. During the twenty-seven days that she was under observation in St. George's Hospital it grew rapidly. The tumour, of the size of a melon, was in the anterior wall of the uterus. Externally it resembled a fibroid both in coarse arrangement and in microscopical structure, but centrally it was soft and yellow. The soft part had broken down into the cervical canal and through the back of the uterus into the peritoneal cavity, forming a sprouting, hæmorrhagic growth, which filled the pelvis and extended upwards into the left iliac fossa, surrounding and compressing the sigmoid flexure. Microscopically the external part consisted of ordinary plain muscle cells with a certain proportion of fibrous tissue, the sprouting part being of short spindle cells with enormous nuclei, while the soft central part showed the transition between these two extremes. Chiefly owing to Mr. Doran, the important question of the possible malignant degeneration of myomata had of late years received some attention, and this specimen was brought forward in the hope that it might be of interest. Mr. ALBAN DORAN considered that it was for the general pathologists to settle the question which had been raised. Did a uterine myoma deliberately change into a sarcoma, or did it in suspected cases simply acquire malignant attributes without any histological change? Dr. Dickinson's specimen and his own had malignant qualities. On the other hand, many rapidly growing uterine fibroids were in no sense malignant. In his memoir on the Absorption of Fibroid Tumours of the Uterus in the Transactions of the Obstetrical Society for 1893, and in the discussion which followed, note was made of Dr. William Duncan's and Von Mosetig's remarkable cases. Both operators opened the abdomen with the intention of removing a suspicious fibroid, both found the tumour to be fixed, and therefore left it alone, and in both cases the tumour disappeared after the operation. In Dr. Duncan's case the fibroid looked very much like a sarcoma. On the other hand, Mr. Doran had seen many cases where a myoma became clinically malignant, setting up ascites and killing the patient without growing very large. In very big fibroids the tissue was often œdematous, simulating a sarcoma. As to cancerous fibroids, the pathologist could easily understand them. Schottländer had quite recently proved that glandular and epithelial growths might be found deeply situated in myomatous tumours. The metastatic deposits of pure myoma, such as Liebman and others had found in the lungs, were hard to explain, as the primary disease seemed in some cases to have been myo-carcinoma of the uterus and not myo-sarcoma.

Mr. T. JACKSON CLARKE said that a paper of considerable importance—that of A. Korotneff[1]—bearing on the Relation of Sporozoa to Cancer appeared soon after his own original communication[2] made to the Society last session. Korotneff had since published a separate volume on the subject. The conclusions arrived at by the Russian biologist were essentially the same as those previously enunciated by Mr. Jackson Clarke.[3] After having pointed out some minor points of difference between his account and that of Korotneff, Mr. Jackson Clarke referred to the following important points of agreement: 1. That in the cell nests of squamous epithelioma and in the corresponding parts of mammary and other cancers parasites—some free from the host cells—were to be observed

[1] Centralblatt für Bakteriologie, March 23rd, 1893.
[2] Proceedings of the Pathological Society, Dec. 20th, 1892, an Jan. 17th and Feb. 21st, 1893.
[3] Morbid Growths and Sporozoa, 1893.

undergoing various reproductive processes. 2. That these free parasites were but another phase of the intra-cellular parasites described by Soudakewitch and others. 3. That in many cancers there was to a biologist the strongest evidence that the parasites were the cause of the growth. Paget's disease had been re-examined by Mr. D'Arcy Power,[4] who found that some of the structures described by Wickham could not be accounted for by alterations in the epithelial cells &c., and that they were possibly "parasitic organisms differing entirely from the 'cancer bodies' of Ruffer." With regard to cells of endogenous origin, Dr. Ruffer and Mr. Plimmer[5] had said: "We, like most other observers, have not been able to satisfy ourselves as to the formation of endogenous cells"; this was in harmony with the opinion previously expressed by Mr. Jackson Clarke. Specimens of squamous epithelioma were shown. In one there were cell-inclusions, with a well-marked "peripheral granule layer," as described by Soudakewitch, Mr. Jackson Clarke, Dr. Ruffer, and Mr. Plimmer; in the other there were capsules filled with granular "spores," as described by Wickham and Mr. Jackson Clarke, and parasites as described by Mr. Jackson Clarke and Korotneff.

Mr. D'ARCY POWER then gave details of a case of Epithelioma of the Scrotum occurring in a tar-worker. He pointed out that the disease was becoming rarer, as workmen recognised more fully the irritating properties of tar and took increasing pains to prevent its irritating effects upon the skin. The ulcer commenced as a small dry sore in a barge-builder aged forty-seven years, whose clothes in the course of his occupation were often soaked in gas tar. Mr. Power said that he had introduced pieces of the cancerous growth into the irritated vaginæ of a white rat and of a rabbit, and had maintained them in position for four days, but the results of the inoculation were negative. He then proceeded to describe the minute anatomy of the growth, alluding to the careful work done upon the same subject by Dr. Karl Schuchardt. He pointed out that the simplest epithelial ingrowths were flask-shaped, and that the bulbous extremity was frequently occupied by a large and well-defined cell, apparently derived from the more superficial layers of the rete mucosum, which presented a double radial striation. These cells, which appeared in many cases to be the commencement of cell nests, were very numerous and exactly corresponded with the cells described by Dr. Julius Steinhaus in a recent number of *Virchow's Archiv*. Mr. Power also stated that he had carefully examined the sections for "cancer bodies," but so many of the cells were degenerating that he did not feel himself competent to make a definite statement as to their presence. The paper was illustrated by lantern slides and microscopical preparations.—Mr. SHATTOCK proposed that both groups of specimens should be referred to the Morbid Growths Committee, who should be asked to settle what was the precise histology of these specimens.—Mr. KANTHACK held that the Morbid Growths Committee could not decide upon the specimens unless they obtained the material and cut from it fresh sections for themselves. Fusion of cells was common in epitheliomata and other tumours, especially when the cells were becoming keratinised. It was impossible in many cases to distinguish by staining between nuclei in giant cells and the so-called epithelioma parasites. In a case of sero-cystic disease of the breast the cells in the alveoli had become fused so as to form a giant cell. He held that the staining reactions at present in vogue were not to be depended upon, for leucocytes kept for some time on a warm stage and those obtained from the serum of a blister would give a similar reaction to these bodies from carcinomata and other tumours. There were certainly processes of pearl formation other than those described by Mr. D'Arcy Power, for they were found in numbers in the mucous membrane of the hard palates of newly born children. The specimen which Mr. Clarke had exhibited as a cyst containing spores was, he believed, a capillary containing typical leucocytes.—Mr. W. G. SPENCER asked if in the case of tar cancer Mr. Power found any carbon granules in the cells such as those described in soot cancer. He had described such granules, which resisted treatment with nitro-hydrochloric acid.—Mr. JACKSON CLARKE, in reply, said that the spore-containing cyst lay in the middle of an epithelial nest, and therefore could not have been a capillary.—Mr. POWER said that there were no actual pigment granules in the cells, although there was a fine haze of pigmentation.

Mr. F. C. WALLIS showed a specimen of a Sacculated Hypertrophied Bladder, which had ruptured through a saccule into the porta vesicæ and thus produced all the symptoms of a distended bladder. A catheter passed into the bladder only drew off a few drachms of bloodstained urine. Mr. Wallis opened the abdomen in the middle line and came upon a membranous layer which looked black and necrotic. This was opened, and about two pints of foul urine escaped; the bladder was seen at the bottom of the cavity quite empty, and the catheter could be felt through the anterior bladder wall. The escaped urine was extra-peritoneal. The penis had been amputated twelve years previously and there was a stricture of the first half-inch of the stump.—Mr. HURRY FENWICK asked for more precise information as to the position of the sacculus.—Mr. JACKSON CLARKE mentioned a case of stricture in which the patient had been admitted to St. Mary's Hospital. The passage of a catheter did not diminish the hypogastric dulness and a perineal incision was made. The patient died, and an accumulation of urine was found between the bladder and the peritoneum.—Dr. ECCLES said that he had recently made a necropsy on the body of a man aged sixty-two years, whose bladder had been drained from the perineum. A large cavity was found in front of the bladder containing three-quarters of a pint of urine; it was completely extra-peritoneal. Several small sacculi projected from the bladder wall, but there was no obvious rupture of these. The collection might possibly have been due to infiltration of urine upwards from behind the symphysis pubis.—Mr. W. G. SPENCER asked whether the sacculus occupied the position of the urachus.—Mr. WALLIS, in reply, said that the leaking spot was at the summit of the bladder, but well to the left of the situation of the urachus.

Mr. DAVIES-COLLEY showed as a dried specimen the Bones of a Knee-joint which he had removed by excision thirteen years ago for what he then considered was osteo-arthritis. The patient was a man aged thirty-six years, a healthy looking sailor, who was admitted to the Seamen's Hospital for a swollen knee. He had contracted syphilis twenty years previously, and had suffered from sore-throat and from subcutaneous abscesses. Two months before admission he had strained his knee in mounting the rigging, and a month later he began to notice some pain. On examination there were many scars to be seen round the knee-joint, which was four inches larger than its fellow. There was semi-fluctuation, the bones were much enlarged, and there was distinct grating on attempts at movement. The joint, when examined after excision, showed a thickened synovial membrane, and there was some caseous lymph in its interior. The semilunar cartilages were destroyed and were replaced by gelatinous material. The articular cartilages were entirely disintegrated, and there were deep erosion and pitting of the bones. The man died a week later from acute nephritis and multiple abscesses of the lungs and spleen. No further sign of internal syphilis was noted. A further examination of the joint showed osteophytic growths on the internal condyle and on the margins of the patella, and there was eburnation as well as pitting. The age of the patient, the rapidity with which the destructive process occurred, the enormous soft enlargement of the joint, the comparative absence of pain and the deep excavations in the bone brought this case into line with the syphilitic chrondro-arthritis of Professor Virchow, and Mr. Davies-Colley suggested that some of the cases of Charcot's disease appeared to be only further advanced instances of this affection.—Mr. W. G. SPENCER said that there appeared to be no evidence of syphilis going on at the time of the operation, nor were syphilitic changes found in other parts of the body after death. The clinical appearances were those of septic arthritis, such as was not rarely seen after gonorrhœal rheumatism. The scooped-out cavities were suggestive of tuberculous arthritis. It was very rare to find joint disease associated with tertiary syphilitic disease of the bones.—Mr. JACKSON CLARKE quoted the case of a man aged forty-seven years, who had had syphilis, and who presented disease of the terminal joint of one of his fingers, and there was grating on attempts at movement. He rapidly improved under iodide of potassium.—Mr. BOWLBY did not admit that syphilitic disease of joints was rare, though extensive destruction was uncommon. In many cases there was almost entire absence of pain. He agreed that the specimen shown was an instance of syphilitic disease. Neither eburnation nor deep "dug-out" pits occurred in septic arthritis. The history was against tubercle and the acicular osteophytes were not like those of osteo-arthritis.—Mr. DAVIES-COLLEY, in reply, said that the subcutaneous abscesses occurred a long while before the knee trouble began. The necropsy was not a complete one.

Mr. HURRY FENWICK showed a specimen of Sacculated

[4] Journal of Pathology, November, 1893
[5] Ibid., October, 1893.

Kidney, with partial obstruction of the ureter, with an impacted stone. A stone weighing five ounces and a half had been removed from the patient's bladder by suprapubic lithotomy, and the wound was healing well, when on the tenth day after the operation a renal tumour appeared and the temperature began to rise. Nephrotomy was performed, and a large quantity of clear fluid glittering with crystals of cholesterine was evacuated. The cyst proved to be an enormously dilated calyx, the communication of which with the pelvis had been occluded. Only two cases of cholesterine renal cysts had been recorded in the Transactions of the Society, and the passage of cholesterine crystals in the urine had been denied. This, however, was incorrect, as Dr. Murchison's case proved.

The following card specimens were shown :—

Mr. DAVIES-COLLEY : Fibroma of Plantar Fascia.

Mr. HURRY FENWCK : Two-ounce Stone formed around a Hairpin.

Dr. LEE DICKINSON : Calculous Obstruction of Ureter.

OTHER METROPOLITAN MEDICAL SOCIETIES.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 20th, 1893, Dr. R THORNE THORNE in the chair.—Dr. WILLIAM HUNTER read a paper on Bacterial Poisons, in which, after referring to the earlier speculations as to the nature of infection, the chemical ferment hypothesis of Liebig, and the opposition presented by Henle, who maintained the *contagium-virum* theory, although on *a priori* grounds alone, he observed that M. Pasteur's discovery of the nature of the alcoholic fermentation, which had been the favourite analogy of the chemical school, and the demonstration by Davaine and others of the functions of the anthrax bacillus, laid the foundations of bacteriology; but the notion of some ferment unconnected with, though adhering to, the bacilli was not absolutely excluded, even by Dr. Koch's observation that anthrax cultures retained their infectivity, to whatever treatment they were subjected, so long, and only so long, as the bacilli maintained their power of self-multiplication. There was, however, now no longer any occasion to defend a doctrine, which recent experiments and observation proved conclusively—viz., that each specific and communicable disease had its *vera causa* in, and was propagated by, a specific microbe, which produced in and from the fluids of the organism poisons which were the cause of the phenomena of the disease. For a time attention had been so exclusively directed to the bacteria, as the "irritants" and causes of the structural changes which had formerly constituted the sole study of pathologists, that the cell itself seemed in danger of being forgotten; but this did not last long, and bacteriology had now taken its place as a branch, not of pathology only, but of physiology, and in its light the cell had been found to possess powers and capabilities hitherto not imagined. Before discussing the nature and actions of bacterial poisons he would remark that the word "poison" had acquired a more limited signification than it had in the earlier literature of the subject. It was now looked on rather as an instrument than as the agent in the origination, or rather the propagation, of the disease, the actual cause being the micro-organisms which produced them. These, however, were only potential poisons—poisons in relation to the body attacked; for as regarded the bacteria they were often but the means by which they obtained their necessary nutriment; and, as structural changes in the cell so slight as to elude the microscope might lead to such grave disturbances of function as epilepsy and diabetes, so might molecular changes in the proteid molecules of which the cells were built up, unrecognisable by chemical examination, transform a harmless and inert substance into a virulently poisonous one. The activity of bacteria was mainly directed to obtaining the several elementary constituents in the relative proportions required by each, but this activity was materially modified by such conditions as the concentration or reaction of the medium, by atmospheric pressure, rest or motion, light, and, above all, by temperature, and also by the presence of other micro-organisms. They obtained their nitrogen in the form of the group NH_2 or more rarely of NH, and preferably from any of the albumens, though they could utilise ammonium salts, such as the tartrate, and their first action on albumen was to convert it into the more diffusible peptones. Their carbon they derived from a variety of sources—e.g., starch, sugar, fatty and organic acids, and even from glycerine and alcohol. The most striking differences among bacteria were connected with their need for oxygen; and in obtaining it under certain conditions some, otherwise harmless, might develop pathogenic properties by giving rise to poisonous products. It was indeed the absence or deficiency of oxygen that distinguished the process known as putrefaction from simple decomposition, and it was a necessary condition of fermentation, which was concerned in the formation of a large number of poisons. Special ferments converting starch and cane-sugar into glucose, or albumen into peptones, were, as was well known, secreted by the cells of the salivary, gastric, and pancreatic glands, and ferments possessing like powers were produced by many bacteria for the purpose of rendering the surrounding media available for their nutrition; and, though in the formation of an abscess the leucocytes attracted to the seat of irritation took a considerable share, much was doubtless due to this process of predigestion of the connective and gelatiniferous tissues exerted by a ferment formed by the staphylococci, and which had been isolated. Like pepsin, trypsin, papain, &c, these ferments were destroyed by temperatures between 55° and 70° C., though they might resist a dry heat of 120° or 140°. This power of dissolving the tissues greatly conduced to the active growth and free movement of the bacilli that possessed it. Among 140 examined Fermi found 40 capable of dissolving gelatin, but only 5 that acted on fibrin. Diastatic ferments or those converting starch into sugar were formed by many bacteria and were affected by temperature in the same way as were the proteolytic; indeed, some held that they were identical, but Fermi found that they were not produced by such as the B. pyocyaneus and M. prodigiosus, and that, while present in broth, serum, and gelatine cultures of the bacilli of anthrax, of cholera, and Finkler's, the two could be separated by subjecting the cultures to various degrees of heat and cold. Ferment production was a vital rather than a chemical process. Carnivorous plants secreted an acid fluid, not a peptic ferment, when irritated by powdered glass, and the vast majority of bacteria produced ferments only when albuminous or amyloid matters respectively were present. This ferment- and solvent-forming power influenced the action of the bacteria in disease. For example, streptococci and staphylococci were both pyogenic, but the former tended to produce erysipelatoid or diffused inflammation, and the latter abscesses, carbuncles, pustules, and boils: the explanation being that the ferments formed by staphylococci were more actively proteolytic and, unlike those of the streptococci, were capable of breaking down the connective tissues; thus tending to occlude the lymphatics and bloodvessels and to cause localised necroses, no such limitation following the inflammatory processes set up by streptococci. Suppuration was, therefore, rare in erysipelas; and in diphtheria the streptococci, though swarming in the fibrinous exudation, which they, far more than the specific microbe, Loeffler's bacillus, excited, were unable to dissolve it, the disintegration being effected later by staphylococci, &c. Another question was whether micro-organisms could produce ferments capable not only of exerting a special action on other matter, but also of imparting to some portion of it the like powers. Were the degenerations in the great nerve trunks following diphtheria the cumulative effects of the poison once formed by the bacilli in the pharyngeal tissues and diffused thence throughout the system, or did they continue to be formed as the result of a self-multiplying ferment long after the bacilli themselves had disappeared? Sidney Martin seemed to hold this third opinion as regards diphtheria; he isolated two poisons, an albumose and an organic acid; but the former was not a ferment, as was that identified by Roux and Yersin, and Martin's theory seemed to be that this ferment formed by the bacilli in the fauces and absorbed was stored in the spleen and elsewhere, continuing to give rise to the poisons he had described and to which the general symptoms of the disease were directly due, for weeks, perhaps months, after the bacilli had disappeared. The albumoses were in many ways the most important group of bacterial poisons, since they represented alterations in the molecular arrangement of the common protoplasm too slight for recognition by any chemical means, though entirely changing its properties from the physiological side, unless, indeed, these poisonous properties were due to some other and chemical body intimately combined with them. But the former explanation was the more probable, since very slight external influences sufficed to

destroy their activity. None could stand a few hours' exposure to dry heat of 80° C., and all were weakened by temperatures of from 60° to 80° in the moist state. Tetanin, the most virulent poison known, was, as Kitasato had shown, greatly enfeebled by a few hours' exposure to diffused daylight and rendered completely inert by direct sunshine. Martin, Hüppe, Brieger, Hankin, and others had isolated toxalbumoses in tetanus, anthrax, diphtheria, cholera, &c; but albumoses derived from the bodies of bacteria—intra-bacterial as they might be called, in contradistinction to the extra-bacterial, or those formed in and from the surrounding organic fluids—were far more stable, resisting even prolonged boiling, and appeared to constitute a distinct class. One of the most remarkable properties of the albumoses in relation both to the microbe itself and to the invaded body was the power of attracting or repelling leucocytes which naturally tended to accumulate in and around the seat of any irritation and, if sufficiently numerous and active, were able to devour and destroy the microbes before they had time to produce their effects. Thus Vaillard found that the bacilli of tetanus if washed might be injected in large numbers with no result beyond an enormous determination of leucocytes to the place; but if the washing were omitted no leucocytic invasion followed, and very small doses sufficed to set up the disease. In most cases, however, the presence of the microbes and their products served to attract leucocytes and thus sooner or later to arrest and often to localise the morbid process. From his own observations, as well as those of Heron and Martin, it appeared that the albumoses of tubercle, tetanus, diphtheria, &c., unless injected in such quantities as to excite other disturbances, did not cause any rise but rather a fall of temperature; but the length of time during which they remained in the system or exerted a lasting influence on the protoplasm, while it placed them in a totally distinct class from the alkaloidal poisons, drew them into close relation with the ferments. This peculiarity had an important bearing on the course and duration of the disease, but its chief interest lay in its connexion with the remarkable, though familiar, condition of immunity. The extent and profoundness of the alteration effected in the entire animal economy could not be better illustrated than by the complete immunity that might be thus conferred in a very short time against so virulent a poison as that of tetanus, and the still more astonishing fact that the injection of a few drops of the serum of the blood of such an immune animal into another imparted to it an equal immunity. Indeed, not merely from the pathological standpoint, but in a greater degree from the physiological, had the recent results of bacteriological research restored the cell to the high position accorded it by Professor Virchow and had given us a new and greatly enlarged conception of the nature and functions of the protoplasm and serum.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—At the meeting of this society on Dec. 18th, Dr. WOODFORDE, President, in the chair, the discussion on the Tenure of Medical Officers of Health was opened by Mr. WYNTER BLYTH, who, having been called on by the President for an opinion on the legal aspects of the question, said that it was purely a matter of contract and depended on the Acts under which the appointments had been made—the Public Health Act of 1875, the London Public Health Act of 1891, or, in the case of a few of the oldest, different local Acts. As a matter of fact, urban officers holding their appointments at the pleasure of the authorities—as was the case in London until recently—were more secure than those appointed for a definite term of years, the expiry of which served to reopen the question. He thought that pressure should be brought to bear on the Local Government Board not to sanction strictly whole time appointments, since local authorities would not pay more to these than to others.—Dr. ARMSTRONG referred to a paper he had read on the subject some years ago and remarked that the security of tenure he then advocated had been granted to officers in the metropolis by the Public Health (London) Act of 1891; but that as regarded others the necessity for canvassing the members of the sanitary authority every three years or oftener was ruinous to their independence, while the Local Government Board, unable to resist their supersession at the end of such term and leaving them to pay their own costs in cases of illegal dismissal, presented but a poor resource; besides, there were always men ready to come forward as "half-timers," with no special aptitude, to take the appointment. The Local Government Board ought to compel the county councils to exercise the powers conferred on them of appointing officers to counties and large combined districts with adequate salaries and pensions, though the time might not yet be ripe for totally excluding medical practice. The course of training should include not only laboratory and such-like work, but a period of service as assistant to the officer of a large urban or rural district.—Dr. EUSTACE HILL thought that the county council would be a better court of appeal than the Local Government Board, as it would be guided by its own medical officer; and Mr. SERGEANT concurred in the expedience and justice of the transfer of such powers.—Dr. WILLOUGHBY suggested that it was in the power of the Local Government Board to hasten the extinction of "half-timers" and "five or ten pounders" by simply refusing their consent to each such appointment or reappointment. The Board would not now contribute to salaries less than £20; they had but to square this figure, and combined districts falling under the 18th section of the Local Government Act of 1888 would perforce be constituted everywhere. Referring to the question of whole time, he insisted on the incompatibility of general medical practice with the independence of the medical officer and with the relations that ought to subsist between him and the practitioners in his district, but, except in the case of the largest and most populous towns or districts, he maintained that practice as a consultant, expert, or professor in public health would be actually of advantage to him and his district by preventing his falling into a groove of official routine—indeed, he might add the position of physician to a fever hospital and the consulting practice which that would bring with it.—Mr. VACHER then read a short paper on the Drawing-up of Annual Reports, which, he thought, should be on a uniform plan and of one size, so that those from each county, &c., could be bound together and formed into series for reference. The best size, he considered, would be large octavo, like the report of the Local Government Board and the Poor-law and Registrar-General's Departments, the type being not less than "small pica" and the figures "old face." Of course, the nomenclature, age, periods, &c., should be those prescribed by the Local Government Board, but the order of the subjects might be varied according to circumstances. All, however, should give in successive sections the area, population, births, deaths, and marriages variously classified and arranged under the respective heads of locality, age, causes, &c., the rates per thousand of the entire population, and, in the case of children, &c., the population at particular ages, classification of causes, distribution, &c. Then, after taking all the usual subjects of a complete report in order, an appendix might be added giving a review of sanitary legislation and progress, of epidemics in other places, and other matter of general interest. Recommendations as to by-laws, staff, appliances, sanitary works, and other needs of the district should be repeated year by year until adopted; and, lastly, the value of a report was greatly enhanced by good maps showing the physical characters of the district, its drainage and water-supplies, the distribution and density of the population, and the incidence of notifiable diseases and of deaths from preventable causes. In the discussion that followed several medical officers to county councils took part, complaining of the omissions and the want of explicitness and of such information as alone could make the reports they received from the local authorities of any practical use, as well as of the graver offence of manipulating the estimates of population and the returns of deaths, so that the death-rate was made to appear in far too favourable a light.—The drawing up of reports should, in Dr. ARMSTRONG'S opinion, be made a prominent subject of training and of examination.

PROVINCIAL MEDICAL SOCIETIES.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on Tuesday, Dec. 19th, Dr. S. JOHNSTON, Vice-President, being in the chair.—Dr. MAJOR showed a man who had suffered for twenty years from gradually increasing numbers of Fibromata, which now were present on every part of the body, including even the soles of the feet.—Dr. RABAGLIATI showed a woman aged twenty-one, who, after a fall from some steps, had suffered from headaches, neuralgias, fainting attacks, and fatigue, with abdominal pains, so that she had been an invalid for two years. She had tender spots in various muscular regions, such as the middle of the soleus, on pinching the muscular walls posterior

or anterior to the axilla, or on pinching the web of the thumb, and generally on pressure over any aponeurotic attachment; besides this there was great tenderness, with nausea, on placing the finger on the umbilicus, and he found that the umbilicus was somewhat patent, as it was in many of such cases. He excised it, the patient making a rapid recovery. She had lost the abdominal pains and was now in good health generally and able to do hard work. He had operated thus on similar cases, with good results.—Mr. HORROCKS, Dr. Major, Mr. Rowan, Dr. H. Bronner, Mr. Barber, Dr. Mantle, Dr. Kerr, and Dr. Johnston discussed the case.—Dr. MANTLE (Halifax) showed (1) A probable case of General Paralysis; (2) an early case of Disseminated Sclerosis.—Dr. BELL showed (1) a case of Disease of the Finger Nails; (2) Restoration of Lower Lip.—Mr. ALTHORP exhibited Auricular Fistulæ in a young woman.—Mr. HORROCKS showed (1) a case of Excision of Hip; (2) cases of Excision of Ankle; (3) a case of Excision of Elbow; and (4) Injury to Brachial Plexus following Dislocation of Shoulder.

FORFARSHIRE MEDICAL ASSOCIATION.—A quarterly meeting of this association was held in the Anatomy Class-room, University College, Dundee, on Dec. 22nd, 1893, Dr. MACKIE WHYTE occupying the chair.—The first business on the agenda was a paper by Professor PATERSON on the Origin and Distribution of the Nerves to the Lower Limb. The subject was treated from the point of view of embryology, and was illustrated by a number of excellent diagrams.—Dr. MACEWAN then read notes of a case of Laminectomy, in which the operation had been performed for dislocation of the sixth cervical vertebra, the result of a fall; the operation was unsuccessful.—Dr. STALKER afterwards read notes of a case of Floating Kidney which evoked much discussion mainly as to the frequency of this affection. The general opinion seemed to be that floating or movable kidney was found much more frequently in practice than its comparative rarity on the post-mortem table would seem to indicate.—Dr. KYNOCH showed a case of Congenital Deformity of the Right Leg in which the limb as far as the knee was normal, while the lower portion was replaced by a conical stump in which the existence of a rudimentary tibia could be traced. The other leg was normal save that there was some webbing of the toes. Both hands presented malformations of the fingers and there was a mitral cardiac murmur, probably of congenital origin. The patient was mentally weak.—A large number of pathological specimens remained to be shown, but as there was not sufficient time to examine them it was resolved to adjourn the meeting till the end of January.

KIDDERMINSTER MEDICAL SOCIETY.—This society, which has lately been established, was inaugurated with a conversazione on Tuesday, Dec. 19th. 1893, at the Kidderminster Infirmary, when the President, Mr. S. STRETTON, delivered the inaugural address, in which he contrasted the present health conditions of the town with what existed thirty-seven years ago; and he spoke of the progress which had been made in the relief of the suffering poor of the district and precautions against the spread of disease, as well as of the architectural improvements, all of which had a refining and healthful influence upon the people. He alluded to the efficient way in which vaccination was carried out and urged the provision of a public abattoir &c. and more efficient public baths, and concluded by strongly advocating cremation as a means of disposal of the dead.—At the close of the lecture a hearty vote of thanks was accorded on the motion of Mr. W. MOORE, seconded by Mr. E. H. ADDENBROOK, on behalf of the society, and supported by the Mayor of the borough. The company included, in addition to members of the profession of the town and district, many of the leading inhabitants of the neighbourhood, "Success to the Kidderminster Medical Society" being proposed by Mr. JOHN BRINTON, J.P., chairman of the board of guardians and brother of the late Dr. William Brinton, and seconded by Mr. W. H. SMITH, president of the infirmary. It is proposed to hold meetings quarterly, and the first officers of the society in addition to the president are: vice-presidents, Messrs. D. Corbet and W. Moore; secretary, Mr. G. Lionel Stretton.

MIDLAND MEDICAL SOCIETY.—At an ordinary meeting of this society held on Dec. 6th, 1893, Mr. HENRY EALES, ex-president, being in the chair, Dr. RUSSELL showed two cases of Hereditary Chorea. The patients were twin brothers, aged thirty-four. Both the father and grandmother suffered from the same complaint. The disorder had begun seven years previously, nearly simultaneously in the two cases. The symptoms manifested were described.—Mr. CHRISTOPHER MARTIN then showed two specimens of Ruptured Tubal Pregnancy. The first was from a woman, aged twenty-six, who had had amenorrhœa for six weeks. On opening the abdomen a large quantity of blood was evacuated. The right Fallopian tube was felt to be ruptured. It was drawn into the wound, ligatured, and removed. The specimen showed a right Fallopian tube, enlarged by a five or six weeks' pregnancy, which had ruptured on its superior surface. There was no trace of a fœtus. The right ovary was cystic. The second specimen had a similar history of six weeks' amenorrhœa, followed by sudden abdominal pain and faintness. On operating, the abdominal cavity was found to be full of blood. Mr. Martin removed the left Fallopian tube, which had ruptured, and washed out the abdomen and drained it. The patient made, as in the other case, an excellent recovery.—Dr. SHORT read the notes of a case of Multiple Sarcoma of the Subcutaneous Tissues secondary to a Growth in the Left Iliac Fossa. The patient was a lady aged seventy-one years, who developed a tumour in the left iliac region followed by small nodules under the skin of the abdomen. These nodules grew rapidly, and some were as large as a small nut at the time of death. Those on the abdominal wall were followed by similar growths in the back and limbs. The skin over them became bluish from small venules, but no ulceration occurred. The primary growths appeared to involve the whole of the left iliac fossa and the side of the pelvis, but did not entirely obstruct the large gut. She died about six months after the growths were first noticed. Sections of one of the subcutaneous nodules showed the growth to be a round-celled sarcoma, without excess of pigment.—After the exhibition of specimens Dr. ARTHUR FOXWELL read a paper on Hæmoptysis.

Reviews and Notices of Books.

Pyogenic Infective Diseases of the Brain and Spinal Cord: Meningitis, Abscess of the Brain, Infective Sinus Thrombosis. By WILLIAM MACEWEN, M.D. Glasgow: James Maclehose and Sons. 1893.

Atlas of Head Sections. By WILLIAM MACEWEN, M.D. Glasgow: James Maclehose and Sons. 1893.

THESE volumes, issued together, are two of the best and most important additions to medical literature made in the year 1893. They deal with a department of surgical practice that has undergone a remarkable development within quite recent times, and the author is distinguished by the extent and brilliant success of his experience in it. Naturally anything he publishes on this subject commands attention, and, after having read the book most attentively, we assure our readers that it more than fulfils expectations and is in every part worthy of the great reputation of its author. The Atlas is also unique in its excellence. The interest in infective pyogenic diseases of the brain has of late mainly centred in the conditions when resulting from chronic middle-ear disease. It is in such cases that surgeons have obtained new successes, and it is to such cases that Dr. Macewen devotes the greater part of the volume before us; and all who want to know how far surgery has advanced in this region should read his experience.

The book opens with a chapter on Surgical Anatomy, which contains a very carefully detailed account of the temporal bone and illustrates the great practical utility of the surgeon possessing a minute knowledge of human anatomy. It is a chapter to delight the heart of the old-fashioned anatomist and to arouse questionings in the mind of the new-fashioned morphologist. It shows the practical bearing of even the minutest anatomical details. The pathology of cerebral abscess and meningitis is discussed in great detail, and the chapter devoted to the symptoms of these affections is equally full and clear. Thrombosis of

the intra-cranial sinuses is dealt with separately. The details of the treatment of these affections are fully given in a chapter exclusively devoted to this subject. Wherever possible, Dr. Macewen supports his statements and arguments by the detailed record of cases, nearly all of which have been under his own care. These cases have been most carefully observed and faithfully recorded, and they are a mine of wealth to all who study them. Many of them are surgical triumphs that reflect the greatest credit upon Dr. Macewen. The tables of cases given in the closing chapters show that he has been remarkably successful in this department of surgery, and they will act as a strong incentive to others to follow the lines of treatment laid down.

Dr. Macewen's results may be thus summarised. He has operated in 38 cases of suppuration of the mastoid antrum and cells, and recovery has ensued in every case. Of 16 cases of extension of the purulent disease to the petrous bone and its recesses, operation was followed by entire success in 5 cases and by partial success in 11 cases. This partial success involved an almost complete arrest of purulent discharge, an arrest of the advance of the disease, and the establishment of a barrier of avascular connective tissue between the tympanum and the cranial cavity. Operation was performed in 17 cases for infective pachymeningitis externa, with extra-dural abscess in some cases; all these patients recovered. In 6 cases of infective purulent lepto-meningitis operations were performed, and all the patients except one recovered. Of 6 operations of cerebro-spinal lepto-meningitis only one was successful. In 27 cases the sigmoid sinus was ablated on account of infective thrombosis, and 20 of these patients recovered, including one who at the time of operation had rusty expectoration and the physical signs of lung infection. Of 19 operations for abscess of the brain 18 were successful, being followed by the recovery of the patient. We believe that these results have never been equalled, and it is impossible to exaggerate their importance and value. They are not to be explained by "luck" or by a fortuitous succession of favourable cases, for many of them were most severe and complicated, and tested the skill and courage of the surgeon to the utmost. No, the explanation lies in the extreme care and thoroughness with which the operations were performed. The great lesson of Dr. Macewen's experience seems to be that success is only to be attained by early, careful and complete operation. To enable the operator to act early the cases must be most carefully observed, and every indication of intra-cranial mischief noted and weighed. A careful operation must be in every case systematic and conducted with due regard to such structures as the sigmoid sinus, the facial nerve, and cranial fossæ. The best instrument for dealing with the bone appears to be a burr worked in a surgical engine; this has the merits of precision and safety over the rougher sharp spoon, chisel and mallet, gouge or gimlet. The operation, however, must be thorough. Starting from the tympanum and mastoid antrum, the tegmen must be minutely explored for evidence of disease and, if necessary, removed to expose the dura mater over the temporo-sphenoidal lobe. Then the exploration can be carried back to the sigmoid sinus and the cerebellar fossa. Every focus of disease must be eradicated, and where it has advanced too deeply into the petrous bone to render that practicable, as far as possible removal of the disease is to be persevered in and followed by the most rigorous antiseptic measures and the permanent drainage of the mastoid antrum. Intra-cranial lesions are to be treated with equal boldness and precision, and Dr. Macewen shows that there is reason to hope that in the most desperate class of cases—suppurative lepto-meningitis—success will follow early operation and removal of the pathogenic focus or foci.

We have no intention to publish here a *résumé* of the views expressed by the author—in some respects they differ from those commonly held,—but we should like to call attention to two or three points. Dr. Macewen has accumulated a great deal of experience in cranial percussion, and he believes that it is capable of assisting to enlighten us as to the state of the contents of the cranium. In particular, he believes it may be of use in confirming the diagnosis of ventricular distension. The subject is beset with difficulties arising from differences in the shape and density of the cranial bones, but it is well worthy of study.

In sigmoid sinus thrombosis the evacuation and obliteration of about one inch of the sinus are held to be generally adequate, without division of the jugular vein between a double ligature, and it is pointed out that ligature of the jugular vein does not form a complete barrier to the entrance of infective material into the general circulation, as there are other routes open from the sinus to the heart, notably the posterior condyloid vein.

The Atlas is a handsome quarto volume containing fifty-three copper-plate engravings of frozen sections of the head and fifty-three key-plates, with descriptive texts. The engravings are from photographs of the actual sections, and they are most beautiful specimens of photogravures. The key-plates are in outline and have also been separately drawn from nature. The plates represent three series of sections—coronal, sagittal, and horizontal. In both the coronal and horizontal series the adult sections are supplemented by those of the child. The plates are designed to show the exact relative positions of parts in the cranium. In no region of the body is such knowledge of equal importance, for operations for intra-cranial affections must consist largely of exposure of the affected part through a limited aperture in the cranium. The surgeon needs to know, therefore, the relation to the cranial surface of every structure within the skull. With the help of these plates such knowledge is put within his reach at once. Dr. Macewen has placed all surgeons under a great debt of obligation in preparing these sections, and his publishers are no less entitled to acknowledgment for the admirable way in which they have reproduced the original drawings and photographs.

In conclusion we can only repeat that these volumes are of extreme value and importance and will be gladly welcomed by all surgeons who are interested in this department of surgery. Both as a record of successful work and as written and pictorial instruction to other workers they have rarely been surpassed.

A Treatise on Hygiene and Public Health. Edited by THOMAS STEVENSON, M.D., F.R.C.P., and SHIRLEY F. MURPHY, M.R.C.S. Vol. II. London: J. & A. Churchill. 1893.

[FIRST NOTICE]

IN beginning a categorical review of the various articles contained in the second volume of this useful work, we select "Small-pox and Vaccination," by John C. McVail, M.D., F.R.S.Edin., medical officer of health for the counties of Stirling and Dumbarton, and author of "Vaccination Vindicated," as most likely to prove attractive to our readers at the present time. He commences by stating that the subject of small-pox has been the cause of more learned investigation and controversy as to its history, and especially its antiquity, than wellnigh any other subject; but we feel it to be due to the writer to state that, whilst other modern authors may have written more on the subject than he has done, he probably bears the palm as regards investigation which deserves the title of "learned." His work as to the relation of small-pox and vaccination stands out prominently above much other work on the same subject. Statistics are never manipulated by him; difficulties, whether due to imperfect records or otherwise, are fairly faced; and in dealing with this important public health question, as with all others of a like nature, thoroughness is everywhere the standard at which he seems to have aimed.

The history of small-pox is traced from the earliest records found in Hindostan and China during the ante-Christian era; then the records of Arabian and Persian authorities are quoted; and so on, until the course of the disease is traced through the Dark Ages—through the period when, with the revival of learning, medical treatises began to deal with the subject in some detail; through the seventeenth and eighteenth centuries; in the New World; and finally, in one and another country, almost down to the present date. References to various authors show how small-pox in its uncontrolled form has ever been a hideous, loathsome, and terribly fatal disease. Rhazes, to whom we are indebted for what is known of the disease in the earlier centuries of the Christian era, propounded a theory as to its causation; but this theory aimed mainly at explaining "why hardly any one escapes attack." The Greek translator of Rhazes wrote that "every man is born liable to it"; Isaac, the Jew, writing even earlier, said that small-pox "happens to almost all persons"; George Bell, of Edinburgh, wrote in 1802 that the disease had "descended with undiminished violence from generation to generation," and that "every effort hitherto made to extirpate it has failed"; and Ben Jonson's Epigram to the Small-pox begins:—

> "Envious and foul disease, could there not be
> One beauty in an age, and free from thee?"

The records of the London bills of health have been opposed to statistics of other countries as disproving this maintained malignity of natural small-pox; but, as Dr. McVail points out, these records appear to omit from among the causes of death all fatal small-pox under two years of age, and in consequence, they only record a little more than one-half of the actual deaths from that disease amongst the population with which they deal.

Geographically, small-pox knows no limits; it takes but little note of climate and soil, although it seems to be more common in warm than in cold climates—a point that has to be borne in mind in connexion with the special incidence and fatality of the disease on the black races of the tropical regions. Season, on the other hand, does influence the disease; thus, in so far as Europe is concerned, the spread seems favoured by the colder rather than by the warmer weather. This applies very much to the experience of our own country, where small-pox is commonly expected to develop most during the winter months, to culminate in spring, and to fall to its lowest ebb when the warmest months have been reached. Dealing next with the influence of age, sex, &c., we are at once confronted with the fact that during modern times, when the disease has been so largely shorn of its natural character, the records deal but partially with the uncontrolled infection; but previously to Jenner's time small-pox was evidently an affair of childhood essentially. In Geneva, out of every 1000 deaths from small-pox, 961 were those of children under ten years of age; in London the proportion was 815 per 1000; in Kilmarnock only 1·2 per cent. of the small-pox deaths occurred in persons over ten years of age. The truth is that pre-vaccination days practically *all* children contracted small-pox, and that they thus obtained protection against attack, or fatal attack at least, during adult life. The periodicity of small-pox—its occurrence in epidemic form about once in every three years in urban populations such as that of London—was indeed, as Dr. McVail points out, the governing factor in its age distribution. The fatality of small-pox, which is discussed by the writer at some length, is also very high in infancy; it next decreases until about fifteen years of age, and then it once again begins to increase steadily through all the rest of life. The contrast, in this respect, between the time when no children were vaccinated and the past quarter of a century, during which most children have been vaccinated in infancy, is perhaps the most astounding point in the world's history of the disease. Diligently as those opposed to vaccination have burrowed amongst the vital and other statistics of modern days, they still remain confronted with the overwhelming fact that fatality from small-pox has been, if we may so put it, turned absolutely upside down; and, search as they may, they are still unable to place before any body of intelligent men, capable of discerning between that which is and that which is not absolutely fallacious, any records to show that, as in pre-vaccination days, infants and young children unprotected by vaccination die, when exposed to small-pox, wholesale of the disease. The black record of infant death through small-pox has been changed, by vaccination, into an unsullied record of freedom from death through this fatal, loathsome, and disfiguring ailment. But at this point we are led on to the question of protection, whether by natural small-pox, by inoculation, or by vaccination, to which we may return, though we would at once remind our readers that no review of Dr. McVail's article can replace its study in detail. The article covers about one hundred pages; but, unlike many attempts to give a complete and adequate summary of an intricate subject, it is not only brimful of valuable information, but, thanks to its literary characteristics, it is interesting from beginning to end. It may also be regarded as affording to the ordinary reader the most modern and carefully compiled history of the subject with which it deals, by an author who has studiously sought to eliminate all sources of error.

Atlas of the Diseases of the Skin, in a series of Illustrations from Original Drawings, with Descriptive Letterpress. Fasciculus I. By H. RADCLIFFE CROCKER, M.D., F.R.C.P. Lond. Edinburgh and London: Young J. Pentland. 1893.

IT is evident that in a department of medicine which is largely concerned with objective characteristics most useful service can be rendered as well from an educational as from a purely scientific standpoint by the art of illustration: educationally because of the facility thus given to a study of differential diagnosis, and scientifically on account of the opportunity afforded of placing on record in a manner not to be mistaken the features of the morbid state exhibited by the patient. Valuable and important as the collections of representations of skin diseases are, there is the ever-present difficulty of obtaining them in an accurate form, for the more nearly they approach the character of true portraiture the greater is their value. We believe that to accurately depict the characters of a cutaneous eruption must test the powers of the most highly skilled artist. There is a delicacy and diversity in tint and tone of these natural objects which must render the task one of great difficulty and often lead to the production of drawings which, however conscientiously executed, are but crude caricatures of the original objects. There has, indeed, been no lack of more or less successful attempts in this particular branch of medical portraiture from the days of Willan and Bateman to the present time, and some of the most faithful and life-like "portraits" are to be found in the older series; but in very many instances nature has been only too successful in baffling the efforts of the artist, and the clinical observer fails to derive an advantage from the study of these works at all proportionate to the labour that has been expended upon them.

The publication of the first fasciculus of a work of this class, produced under the direction of a leading English dermatologist, cannot fail to awaken interest and excite pleasurable anticipation. The drawings are on a scale which tests their fidelity to nature, and the six admirable plates issued in this fasciculus give promise of the production of an atlas of unrivalled excellence, for it is impossible not to admire the artistic talent that is shown in these drawings and the manner in which they have been transferred to the stone. In one plate (II.) there are three examples of erythema multiforme depicted—viz., two of erythema tuberculatum (one on the

chest, the other on the hand) and one of erythema circinatum. The tint of the erythematous areas and many of their special characters are excellently shown. The next plate (XLII.) comprises two figures, one of dermatitis gangrenosa infantum with varicella, and is by far the best illustration of this condition we remember to have seen, the other being the more common miliaria infantum, the only fault of which is perhaps a slightly too vivid tint of the rash. The next plate (XLIII.) is a clever and really life-like portrait of ichthyosis (acquired) of the trunk. Then follow (LVIII.) four excellent illustrations of the varieties of xanthoma, one case alone furnishing three of the figures. There are the familiar xanthoma planum palpebrarum, the less common xanthoma lineare palmaris, where the lesion is observed to be spreading from the palm of the hand along the flexor surfaces of the fingers, one equally successful portrait of xanthoma tuberosum on the knee, and a figure showing patches of xanthoma congenitale on the abdomen. The next plate (LX.) is wholly devoted to a drawing of a case of lupus vulgaris with epithelioma—a rare conjunction. Here the whole of one side of the face is covered by the lupus infiltration, and at one part a fungating or nodular excrescence of epithelioma is to be seen. Lastly, there is a plate devoted to scabies, one figure showing a most extensive eruption (in which the characteristic burrows are easily recognisable) on an infant's face and head; the other being the pustular eruption seen in the adult. Each plate is accompanied by letterpress that embraces the leading facts of the lesion depicted, and especial reference is made to the cases that furnished the materials for the drawings.

We feel sure that the medical profession at large will give a cordial welcome to this really magnificent undertaking, which, when completed, will stand foremost in the class of works to which it belongs. Both the author and publisher may well be proud of the share they are taking in handing down to posterity a permanent and faithful record of clinical dermatology in a series of portraits that, further, illustrate the progress that is being made in the scientific study of the subject in our time. For our own part we heartily congratulate both Dr. Crocker and Mr. Pentland upon this first instalment of the "Atlas of the Diseases of the Skin," and express gratitude to them for initiating a work of such intrinsic merit and importance.

Essentials of Chemical Physiology for the Use of Students. By W. D. HALLIBURTON, M.D., F.R.S., Professor of Physiology in King's College, London. Longmans, Green and Co. 1893. Pp. 166.

HIS is a laboratory book which may be regarded as a companion volume to Professor Schäfer's "Essentials of Physiology." It consists of a series of lessons or exercises arranged in two courses, of which one is elementary and the other for advanced students. The former is in twelve lessons dealing respectively with the carbohydrates and fats; the proteids; the albuminates and albuminoids; milk, flour, bread; saliva; peptic digestion; pancreatic digestion; bile; blood; and urine, to which last three lessons are very properly devoted. The advanced course is occupied with milk and flour, digestion, hæmoglobin and its derivatives, the coagulation of the blood, muscle, and the quantitative estimation of the constituents of the urine. An appendix gives an account of some of the instruments in common use, such as Gowers' hæmacytometer and hæmoglobinometer, the saccharimeter, polarimeter, Pflüger's mercurial air pump, and others. The difficulty in compiling a short treatise like the present is to know what to leave out, for it is manifest that only the principal constituents of the body and the tests for them can be taken into consideration. On the whole, Dr. Halliburton has exercised a wise discretion in the selection of subjects in the lessons. Perhaps an analysis of bone might have been added with advantage.

Musa Latina Aberdonensis: Arthur Johnston: Vol. I. The Parerga of 1637. Edited by Sir WILLIAM DUGUID GEDDES, LL.D., Principal of the University of Aberdeen. Printed for the New Spalding Club (525 copies only). 4to. Aberdeen.

"FATHER PROUT, P.P. of Watergrasshill, in the county of Cork"—that is, the witty and scholarly ex-Jesuit, the Rev. Francis Mahoney,—after a glowing eulogy of George Buchanan, reproaches Scotland for her habit of boasting of the great humanist rather than of reading his works. The friendly Irish censor might have "widened his reference" so as to include other Scots of genius besides the translator of the Psalms and author of the "De Jure Regni"—Scots who have ceased to be made even matter of boast, and who, as far as compatriot appreciation is concerned, have remained after death what so many of them were in life—"Scots abroad." One of these is Arthur Johnston, physician and poet, whose "Parerga," published at Amsterdam in 1637, had great popularity on the Continent long after they had been relegated to oblivion north of the Tweed, and whose version of the Psalms, second only, if at all, to Buchanan's, found less hospitality in Scotland herself than in England, where it was edited in sumptuous form, with a Latin biography of the poet, by Benson (London, 1741). Since then even notices of Johnston have been few and far between in the motherland. The latest and fullest edition of the famous Edinburgh "Encyclopædia Britannica" has room for lives of men greatly his inferiors, while punctiliously excluding him from its pages, and but for the few sentences in "Chamber's Encyclopædia" and the characteristically careful outline of his career and work in the "Dictionary of National Biography" he is, to the contemporary British public, hardly even a name.

But at length Scotland has done her duty, and given us the first instalment of her rehabilitation of Arthur Johnston; and it is well, perhaps, that she has waited till the proper man appeared to do the work. It required for its worthy performance a refined scholar and a *savant* of the broadest and kindliest academic sympathies, and such it has found in Sir William Geddes. A Hellenist of the first order, whose work in the Homeric and Platonic fields is of high and permanent value, himself an accomplished versifier in the language of Alcæus and Horace—witness his conversion of "Scots wha hae" into a Greek ἐμβατήριον,—Sir William Geddes has also a due appreciation of the medical school over which he presides, a school of which the recent lights were Francis Adams and Alexander Kilgour, men who never forgot that while medicine has its practical it has also its ideal side, and that its greatest representatives have always been those in whom both were happily combined. Arthur Johnston exemplified this combination in a rare degree. A student and graduate of Padua, where he profited by the same masters as did William Harvey, he widened and deepened his knowledge at the schools of Germany, the Low Countries, and France, whence, after years of professional practice, he migrated to England in (or about) the year 1625, visited Scotland, after a quarter of a century's absence, in 1632, and shortly afterwards was appointed physician to King Charles I. In 1637, by which time, with his masterly translation of the Psalms into Latin verse, he had crowned his European reputation as the Caledonian Ovid, he was made rector of King's College, Aberdeen. Of that school, then numbering many a man of light and leading, he was the special ornament until, in 1641, when on a visit to Oxford, he died suddenly in the fifty-fourth year of his age. Such are the few main facts which posterity retains of him; but how far they may be supplemented by glimpses into his *vie intime* is now for the first time revealed to us by his latest editor and commentator.

Sir William Geddes in this, the first volume of his work,

gives us such of Johnston's "Parerga" as were issued during their author's lifetime in "final form." A second volume is to include the remaining secular poems, with the "Epigrammata" and other portions of what may be called his fugitive poetry, as also the "Encomia Urbium," written in praise of the several towns of Scotland. The third volume Sir William Geddes means to devote to the minor stars associated as Latin poets with the Aberdeen school; and the fourth and concluding volume of the series will, it is contemplated, comprise the far-famed version of the Psalms, as well as the purely religious Latin poems of Johnston and his compeers. A "Corpus Poetarum Aberdonensium" will thus be formed, of which Scotland in general and Aberdeen in particular may justly be proud, showing that the academic "Ultima Thule" maintained the supremacy of a country which, in the words of Macaulay, though "then the poorest in Christendom, already vied in every branch of learning with the most favoured," and whose sons, with dwellings and with food "as wretched as those of the Icelanders of our time, wrote Latin verse with more than the delicacy of Vida."

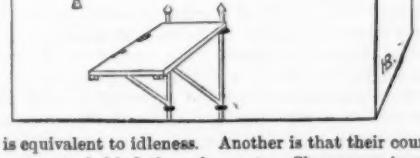
This is not the place to enter on a review of the fifty-two "Parerga" composing the present volume. That is done by Sir William Geddes himself, whose appreciation never ignores a beauty nor his impartiality a blemish. Suffice it to say that while in theme these poems are "humorous, pathetic, denunciatory, and satirical," they are "all treated skilfully, often lightly, gracefully, and always with elaborate learning, while they are further characterised by a complete mastery of the noble yet flexible and, with Johnston, very favourite metre—the Elegiac." He can employ, on occasion, "the lofty and sustained Virgilian heroic, not without a measure of success"; but, "as a rule, he adheres to the Ovidian distich, which, more than any modern Latin poet, he may be said to have made his own." On the wings of such verse—"remigio alarum"—we are wafted over the Europe of the Thirty Years' War in the track of the fortunes of the Princess Elizabeth and the Queen of Bohemia. "The glimpses thus obtained," says Sir William Geddes, "into the seething cauldron of that volcano are vivid and enlivening. From his place of observation as a professor at Sedan, which lay on the verge of the burning crater, Arthur Johnston had under his eye the rapid evolution of events which brought ruin to Heidelberg and the Palatinate, and one feels that his earnest appeals for aid in behalf of the Princess anticipate, in a manner, the tone of a 'special correspondent' transported back to the times of Tilly and Gustavus." To this series of dramatic spectacles succeeds an interesting *catena* of "Parerga," describing a lawsuit the poet had at Malines, "Parerga" which his legal friends, like Sir John Scot of Scotstarvet, must have perused with especial pleasure. Then we have a charming group of Epistles, also in the Ovidian distich, to his Scottish friends, ranging "from grave to gay, from lively to severe," and finally two other pairs of poems dealing with local and contemporary topics. In all of these there are allusions which, now and again, make the interpretation as difficult as the mythological references make that of Propertius; but Sir William Geddes, thanks to his experience and skill as a classical commentator, backed by researches of his own and by contributions from his friends, leaves but few passages in which he has to confess himself at fault. To every poem he prefixes an argument, which is, in fact, a "condensed translation" of it, and in this way even the non-classical reader can form some notion of the poet's drift, though of course shut out from appreciation of the felicitous finish of the language and the rhythmical cadence of the distich.

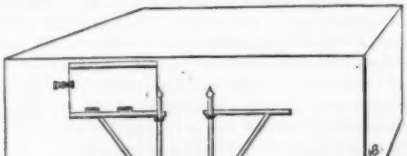
The "Parerga" which have the most pointedly medical interest in his volume are the satire on Dr. Eglishem, an Edinburgh practitioner, who was one of "the physitians to King James of happy memory" and whose learning, possibly from being too much, seemed to have made its possessor mad. He had the presumption (perhaps from political motives) to deny the merits of Buchanan, and to court comparison with that poet's version of the 104th Psalm, which is universally admitted to be the finest specimen of modern Latin verse. Poor Eglishem and his rival attempt became the butt of the contemporary world of letters, not only Johnston, but the eminent Dutch poet and scholar, Daniel Heinsius, and his compatriot, Wiliam Barclay, M.D., converting him into a kind of literary "Aunt Sally." Equally successful from a satirical point of view is the "Apologia pro Thaumantia Obstetrice, ad Senatum Aberdonensem" (apology addressed to the Aberdeen Town Council for a midwife in the lock-up house of the city); while two others—to Dr. Ponticus and to the King's physicians—are simply masterly, the former as a mélange of humour and learning, the latter as a mock rebuke to these grave and reverend seniors for living so long. None of them, however, are so finished as the beautiful poem, entitled "De Anatomicâ Sectione a Julio Casserio Placentino Patavii Exhibitâ" (On the Anatomical Work set forth at Padua by Julius Casserio of Piacenza). This is one of the finest tributes ever addressed by pupil to master, Casserio (not to be confounded with the hardly less famous Gasserius, the German anatomist, who gives his name to the "ganglion") having been the teacher not only, as already said, of Harvey and Johnston, but of relays of surgeons and physicians of eminence from all parts of Christendom. It is, however, to the second and unpublished volume of Sir William Geddes' edition that this *chef d'œuvre* belongs, and we allude to it now in order that the reader may understand how the interest attaching to Johnston's work goes on, *crescendo*, to the close. Meanwhile we have nothing but praise for the instalment before us, which in its superb typography and its chastened elegance of exterior is as honourable to the Aberdeen University Press as its literary quality and *apparatus criticus* are to the Aberdeen School.

New Inventions.

SEATS FOR SHOPWOMEN.

ONE great objection which shop-keepers and others have raised against seats for women assistants is that if sitting is allowed work will not be properly done. They think that sitting is equivalent to idleness. Another is that their counters have no room behind them for seats. Shop room is rarely abundant, and generally there is only just sufficient space behind the counter to walk along, so that chairs or stools would be much in the way I have devised a seat which is





sufficient to give rest for short intervals, which can be drawn out for use or put back entirely out of the way instantly, which occupies no space worth speaking of, and can be made of a size to fit the narrowest intervals. For counters with drawers behind the attachments can be effected on the upright divisions between, so that use can be made of the drawers, or the seat can be attached to the opposite side, as circumstances require. The above seat may be made as light and as little cumbersome as possible, the rectangular uprights being of iron, and the seat of wood, with a little padding if required. The parts shut back flat against the counter, the seat acting on hinges to one support, and being rendered firm on the opposite support, when in use, by a projecting shoulder, as shown in the diagram. Messrs. Lovell and Cox, Guernsey, are the manufacturers.

HAYDN BROWN,
Surgeon, Town Hospital, Guernsey.

COULTER'S VAPORISER AND INHALER.

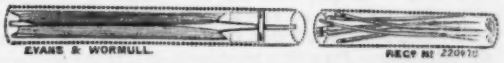
THE Coulter Vaporizer Manufacturing Co. have submitted for our inspection their "Champion Volatilizer and Inhaler," for which they claim the following advantages:—1. The vapour obtained is non-irritating, thoroughly medicated, and completely volatilized because the reservoir containing the medicated sponge is placed on the inhaling tube at a distance of 8 in. or 10 in. from the boiling water. 2. The machine is simple, durable, convenient of manipulation, and absolutely proof against explosion or fire, as a perfect safety lamp accompanies every instrument. 3. It is very cheap.

NEW HYPODERMIC SYRINGE.

WE have received from Messrs. Burroughs, Wellcome, and Co., of Snow-hill-buildings, E.C., a specimen of "the Pure Aluminium" Hypodermic Syringe. This is a new syringe, which is adapted for use with all solutions for subcutaneous medication and is not affected by any climatic condition. The aseptic packing with which it is fitted does not require any further lubrication than a little water and when removed from the piston rod may be thoroughly cleansed and purified; the barrel can be rendered perfectly aseptic with absolute alcohol. The packing may be readily manipulated by adjusting the small nut situated directly beneath the knob of the piston rod. The barrel of the syringe is graduated on one side in minims indelibly marked in black, and on the other side in the metric scale—one cubic centimetre divided into millimetres—in red. It is well protected by a sheath of pure aluminium, which renders the syringe absolutely incorrodible and also less than half the weight of the usual heavily cased instruments. A solution of any temperature may be employed, and considerable pressure may be brought to bear upon the piston rod without any danger of injury or disarrangement to the packing. The dental needle with which it is fitted can be quickly and easily taken to pieces and may be sterilised with absolute alcohol. The manufacturers especially advise that the piston should not be allowed to rush back forcibly when drawn down with the finger held over the nozzle, as the proceeding may fracture the tube. The syringes are supplied with two regulation needles at 7*s.* each, or with one regular and one dental needle at 8*s.* each. Extra graduated barrels to fit the syringe can be procured for 1*s.* each, and packings for 2*s.* per dozen.

ASEPTIC NEEDLE CASE.

WE have received from Messrs. Evans and Wormull, of Stamford-street, S.E., a sample of their new aseptic needle, silk, and wire cases, which should, we think, recommend themselves to all careful and orderly surgeons. The case is



made of bright metal throughout, and can be therefore rendered perfectly aseptic by heat or suitable solutions without damage to itself or its contents, while its small size makes it no extra burden in the pocket. The inventors are prepared to retail the cases, completely furnished with silk, wire, and needles, at the reasonable price of 2*s.* 6*d.* each.

BRONCHITIS KETTLES.

WE have received from Messrs. James Allen and Son of Marylebone-lane, W., specimens of their improved Bronchitis Kettles. These kettles are strong and well-finished articles, and with the recent improvements in their construction will, we think, be found to meet all requirements both of nurse and physician in hospital ward or private sick-room. They are made in two forms: Fig. 1 is for use over the fire, and Fig. 2 is provided with a methylated spirit lamp and stand, so that it may be placed in any part of the room or on a table by the bedside in order to enable the patient to receive the benefit of the vapour when the fireplace is so far from the bed that a kettle placed over the fire would be of little service. Both forms are fitted with jointed tubes and fall-down handles for portability. They are supplied with two end fittings—a jet and a spreader; the latter is most useful when medicated vapour is required, as it contains a small perforated tray, into which a layer of wool, flannel, or felt may be placed, saturated with any medicament that may be prescribed. The price of the kettle for use on the fire (Fig. 1) is 7*s.* 6*d.*, and of that for portable use, with stand and lamp (Fig. 2), 15*s.* The capacity of each kettle is about half a gallon or a little more. We have previously had occasion to speak highly of these kettles, and we are glad to be able to do so again, as we consider that the small alterations—the addition of handles and rose end-pieces for instance—have distinctly added to their convenience and utility.

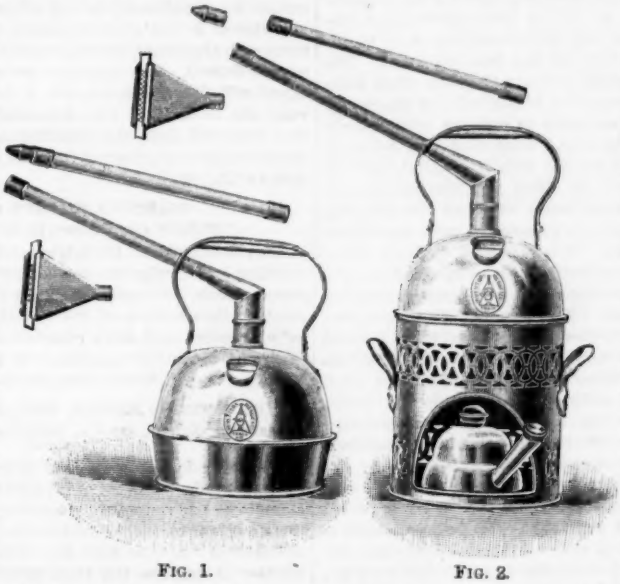


FIG. 1. FIG. 2.

Analytical Records
FROM
THE LANCET LABORATORY.

VIN NOURRY, OR NOURRY IODINATED WINE.
(F. COMAR AND SON, 64, HOLBORN VIADUCT, E.C.).

THIS interesting preparation demands some attention and consideration since it claims to offer a means of presenting iodine in a form that is devoid of metallic taste, permanent in character, not giving rise to disagreeable effects, and yet readily yielding the element in the free state when ingested. As a basis a sweet and pure Malaga wine has been chosen, and in this is dissolved a definite amount of iodine combined with tannin in the proportion of one of the former to two of the latter. Iodine appears to form a loose compound with tannin, which may easily be prepared by warming a few scales of iodine in an excess of tannin solution. The solution so obtained contains no free iodine, as is indicated by the negative results obtained when the ordinary reagents which serve to indicate the presence of free iodine are added, as, for example, starch, chloroform, or carbon bisulphide. So far as we know, the chemical composition or constitution of this compound has not in any exact degree been ascertained, but some idea of its properties and the changes it undergoes under the influence of various reagents may be gathered from experiments which were conducted with Vin Nourry in the laboratory. On adding perchloride of iron, for instance, a dark colouration characteristic of tannin is produced, and on warming the mixture free iodine, recognised by the beautiful violet colour of the vapour, is gradually disengaged. Starch paper immediately turns blue when suspended in the issuing vapour. Starch, however, affords no indication whatever of the existence of free iodine in the wine, but that the iodine is easily set free, and therefore available as such, is obvious since the mere addition of an acid—hydrochloric acid, for instance—to the wine containing starch results in the production of a deep blue colour. This property is a characteristic of interest, and of probable importance from a therapeutical point of view. As regards iodine the wine is tasteless, although there is a very slight suspicion of it in the mouth some time after the wine has been swallowed. The determination of the actual quantity of iodine offers some difficulty, because, as soon as the wine is boiled or chemically treated, part of the iodine tends to combine with certain normal constituents of the wine. Thus, on merely boiling, a trifling amount of iodine escapes with the alcohol, while if under these circumstances an alkali is added iodoform is formed. After several experiments we found the following process satisfactory, and such as gave the most concordant results on repeated trials. To a measured quantity of the wine, after boiling off the alcohol under reduced pressure, a few fragments of sodium nitrite were added and then acidulated with sulphuric acid. The nitrous acid immediately set free expelled the iodine, which was then distilled into chloroform kept very cold. When the distillate ceased to contain iodine the chloroform was well washed, bicarbonate of soda was added, and the iodine in it was estimated in the usual way with thiosulphate of soda, the discharge of the violet colour of the chloroform being taken to indicate the end of the reaction. By this process, adopting the mean of three determinations the wine yielded 2·5 gr. of iodine per 100 c.c., an amount which is not far short of the quantity stated—namely, 5 centigrammes of iodine in a tablespoonful of wine. Further analysis gave the following results:—Absolute alcohol by weight 8·64 per cent, by volume 10·73 per cent., equal to proof spirit 18·81 per cent.; extractives (sugar and glycerine), 34·82 per cent.; and mineral matter, 0·29 per cent. (containing iodides). In view of these results we regard this wine as an introduction of distinct importance in therapeutics, since it appears to place the use and administration of a valuable medicament on a more satisfactory basis than heretofore. Iodine has been sparingly employed hitherto, on account of its irritant and other disagreeable properties; the above preparation, therefore, which contains no free iodine, but which yields it in full quantity on the slightest provocation, is calculated to lead to more extended application. It certainly deserves trial.

ABSOLUTE ÆTHER PURISSIMUS.
(SALAMON AND CO., LIMITED, RAINHAM, ESSEX.)

According to known tests the claims in regard to the purity of this product are in no wise overstated. Thus the specific gravity at 15° C. was found to be 0·720, and the boiling point about 34·5° C., the whole of the quantity operated on distilling under 35·5° C. In spite of the large quantity so distilled, there was no residue. Other tests indicated the entire absence of impurities incident to ether prepared without special rectification. The specimen is clearly of that degree of purity which is, or should be, imperative in all preparations intended for inhalation and other medical purposes.

PERFECT COCOA EXTRACT.
(R. TWININGS, 216, STRAND.)

A carefully prepared cocoa of good quality, from which all excess of indigestible cocoa fat has been removed without affecting the esteemed flavour and aroma of the original product. The fat amounted to 23·8 per cent., and the total mineral matter to 4·5 per cent. There was no indication of alkali or other foreign substances having been added to the cocoa, and it proved satisfactorily soluble in hot water.

STAR-TIPPED CIGARETTES.
(H. GOLD, 345, CITY-ROAD, N.E.)

Cigarette smokers have been recommended to use holders in order that a partial condensation of the volatile tarry oils from the tobacco might be effected, and to obviate also the irritation that frequently arises from the contact of the tobacco with the lips. Although advantageous in many respects, the use of the cigarette holder is attended with certain inconveniences; but by adopting the simple device made use of in the above cigarettes the holder may be done away with altogether, whilst practically the same advantages may be derived. The cigarettes are neatly and ingeniously tipped with Japanese straw, and if desired a plug of cotton wool can be inserted near the mouth-piece. The lips are then protected from the irritating action of the tobacco, which is moreover preserved from the excessive and objectionable wetting by the saliva.

SEABURY'S SULPHUR CANDLE.
(FASSETT AND JOHNSON, 32, SNOW-HILL, E.C.)

The convenience of the sulphur candle for purposes of disinfection and fumigation has already been pointed out in these columns. The above firm have effected certain improvements in the structure of the fuse of the candle so that a safer, steadier, and more complete combustion is ensured. With such convenient appliances at hand the old system of burning a heap of flowers of sulphur is bound to be discarded.

COCA WINES: MEDIUM, PORT, AND CHAMPAGNE.
(ARMBRECHT, NELSON, AND CO., DUKE-STREET, GROSVENOR-SQUARE, LONDON.)

Coca wine is now recognised as not the least important amongst medicated wines which are known to possess distinct stimulating and restorative properties; all the more desirable, therefore, is it to be able to determine not only the quality and character of the wine used as a vehicle, but to decide also whether it contains the total extractives of the leaves or merely the chemically prepared and purified alkaloid cocaine,

which is the chief active constituent. Although it is true that the physiological action of particular leaf infusions is mainly due to certain well-defined bodies (alkaloids), yet there occur in them also other principles, generally of an aromatic nature, which, if they are not absolutely essential, so modify the action of the chief ingredient as to promote a more beneficial and agreeable effect. The presence of coca leaf extractives in a wine may be readily recognised, we have found, by treating the residue obtained on evaporation of a tolerable quantity of the wine to dryness with a few drops of caustic alkali, when a greenish-yellow colour is developed, and on warming it a peculiar strong musty odour is evolved. Wine to which the pure alkaloid is added gives no reaction of this kind. The residue before treatment with alkali has itself an agreeable smell characteristic of the coca leaf. The three varieties of wine above described yielded residues which responded very clearly to the tests just indicated, and moreover the alkaloid was extracted in quantity sufficient to impart the characteristic numbing sensation when rubbed on the tongue, and to yield well-defined crystals of cocaine hydrochlorate when treated with hydrochloric acid. The samples submitted consisted of (1) a so-called medium wine, (2) a selected port, and (3) coca champagne (*vin mousseux de coca*, Reims). Despite their medicated character, these preparations exhibit all the choice qualities for which wines of the origin indicated are noted, and not only is the flavour belonging to the original wine not masked by the coca extractives, but it is, on the contrary, rather agreeably enhanced. We append as types the analyses recently made in our laboratory of the coca wine (port) and the coca champagne. Coca wine (port): Alcohol by weight 11·92 per cent., by volume 14·74 per cent., equal to 25·83 per cent. proof spirit; extractives, 19·27 per cent.; mineral matter, 0·36 per cent. Coca champagne: Alcohol by weight 10·62 per cent., by volume 13·15 per cent., equal to 23·04 per cent. proof spirit; extractives, 6·81 per cent.; mineral matter, 0·16 per cent. The former is a sweet, somewhat syrupy wine, containing an excellent proportion of coca leaf principles. The latter is a fine dry product (Reims), in which there is little indication of foreign constituents beyond a delicate and pleasant flavour of coca leaf. Of wines of this description we have examined none superior, and they may be recommended with confidence in cases where a restorative is exhibited, since chemical analysis enables us to state that they are coca and not merely cocaine wines.

PROTA SOUP POWDER, FOR MAKING CHEAP, NUTRITIOUS SOUPS.

(PROTA FOOD AGENCY, 241, CALEDONIAN-ROAD, N.)

A remarkable feature of this novel food is the very high proportion of nitrogenous matter which it contains, the nitrogen (7·70 per cent.) being considerably in excess of that present in lentils and other pulse foods. It is described as having been prepared from *Arachis hypogea*, a plant growing in South Africa and well known to natives and to South African travellers. Our analysis furnished the following results: Moisture, 7·0 per cent.; mineral matter, 3·90 per cent., containing an excellent proportion of soluble phosphate; nitrogen, 7·70 per cent., equal to 48·62 per cent. nitrogenous materials; and carbohydrates, including fat, 40·48 per cent. If all that is nitrogenous is assimilated, then the food must possess, it is evident, very exceptional nutritive properties. It is peculiarly rich, also, in mineral substances, chief of which is the food essential, phosphoric acid (P_2O_5), in association with potash and lime. It is a cheap and nutritious food, and, having regard to its agreeable flavour, will in all probability prove acceptable. The small proportion of starchy constituents suggests further its beneficial use in cases where sugar-forming bodies in the diet are contraindicated

LIMONA: WHOLE WHEATEN FLOUR WITH HYPOPHOSPHITES.

(L. RAWSTHORN, GREEN BANKS MILL, PRESTON, LANCS.)

A specimen of whole wheat flour enriched by the addition of hypophosphites and yielding on examination the following results: carbohydrates, 86·04 per cent.; nitrogenous principles, 12·66 per cent.; and mineral matter, 1·30 per cent., consisting largely of soluble phosphates derived probably from the added hypophosphites. We have on previous occasions expressed our approval of foods in which not only is care taken not to exclude valuable food constituents, but to which substances of known dietetic value, for example, hypophosphites, are added in approved proportion.

ESSENCE OF BEEF.

(J. HALFORD AND SON, 12, UPPER ST. MARTIN'S-LANE.)

The soluble portion of meat contained in essences of the above type, unless extracted in the cold, consists mainly of creatin and nitrogenous extractives, but of neither albumen nor fibrin. While, therefore, preparations of this class are valuable as restoratives they cannot be regarded, and should not be used, as entire substitutes for meat itself. Nevertheless a well-made essence of beef is a valuable and indispensable food adjunct, and the analysis of the above preparation may be taken as signifying the composition of an excellent specimen. It was as follows: water, 85·70 per cent.; meat extractives, 12·30 per cent., containing 2·18 parts of nitrogen; and mineral matter 2 per cent., chiefly phosphate of potassium and small quantities of common salt. The essence is a clear amber-coloured jelly, of pleasant beefy flavour, and free from excessive saline taste. Moreover, while it was found to be in excellent condition, no objectionable preservatives could be traced.

DESINFECTIN.

(GUNTER, SCHRÖDER, AND CO., HARBURG, GERMANY.)

According to chemical tests this powder consists of bi-sulphate of soda ($NaHSO_4$)—a by-product in the manufacture of nitric acid—to which has been added a small quantity of a chlorinated phenol, or, at any rate, certain ingredients—as, for example, bleaching powder and carbolic acid—which on interacting give rise to a similar product. The solution of the powder in water is strongly acid and chars paper when dried upon it. Ether extracts an oil which on warming appears to evolve chlorine, while it rapidly displaces the iodine in iodide of potassium. This oil is doubtless a powerful antiseptic and disinfectant; but, owing to the corrosive nature of the powder with which it is associated, the preparation cannot be recommended for ordinary household use. On the other hand, it may serve admirably for the cleansing and deodorising of urinals, stables, cattle trucks, and similar places.

KINGZETT'S SULPHUR CANDLE.

(THE SANITAS COMPANY, LIMITED, BETHNAL-GREEN, E.)

Experiments carried on with a view of ascertaining the best way to ensure the steady and certain combustion of sulphur for fumigating and disinfecting purposes have led the Sanitas Company to adopt a fuse which consists simply of a strip or ribbon of Brussels net or other similar material, which is first of all coated with a thin layer of sulphur by passage through a bath of that element in a molten state. The strips of material thus coated with sulphur are afterwards cut up into suitable lengths bent into circular form and then inserted in the molten mass of sulphur forming the body of the candle. On application of a light to this strip it takes fire and burns readily, the molten sulphur running down to the surface of the candle and firing it immediately. In trials which we made this device was found to answer admirably.

THE LANCET.

LONDON: SATURDAY, JANUARY 6, 1894.

IT is less necessary, perhaps, than agreeable at this season to repeat what we have said upon many previous occasions, in reviewing our position and addressing ourselves to the tasks of a New Year—namely, that we desire to take our readers into our confidence and to lay before them the plan and scheme of the work in which they and we are collaborators. It is, and always has been, our highest ambition to represent in the fullest measure and the widest sense the thought and work of the great profession of medicine both at home and abroad, and for the performance of this task not only are the sympathy and moral support of our professional brethren indispensable, but their active coöperation is equally necessary. No amount of zeal on the part of a coterie of coöperating workers could possibly compensate for the lack of support from the general body of practitioners and students of medicine. In an organ like THE LANCET, which receives contributions from every land, experiments become organised into experience, and the sporadic light of disseminated individuals coalesces into constellated brilliancy and form. Many men contribute facts, and one man conceives a theory to embrace and explain them; thereupon others of the profession apply themselves to the task of criticism, and confirm or confute the new doctrine, in either case stating their opinions with impartiality. It is thus that the weekly publication of THE LANCET subserves the development of medical science and the diffusion of the results obtained at the bedside, in the laboratory, or by those more subtle operations of the intellect which cannot be assigned to any place. In one way or another almost every branch of our work may be brought within the compass of this very comprehensive description; but it applies in a special sense to our Correspondence Column, which in recent years has been characterised by a very remarkable tendency to increase both in volume and in respect of the range of the subjects dealt with.

In our issue of Jan. 7th, 1893, we stated that for the purposes of analytical work a Laboratory had been fitted up on the premises of THE LANCET. The work of that branch of scientific investigation has been abundantly recorded in our pages during the past twelvemonth, and we feel that we may add, without impropriety, that it has been not more abundant than serviceable. Its first contributions to our pages dealt with the subject of the sanitary condition of the city of Chicago, and was prepared in view of the concourse of visitors which was then about to assemble there in connexion with the Chicago Exhibition. Much of the work—that is to say, the collection of samples of water and statistical and technical information—was necessarily done upon the spot, and for this purpose an agent was employed in the city, to whose painstaking industry the ultimate success of the undertaking was in a large measure due. Further, with the view of obtaining independent evidence as to the accuracy of our analyses of the samples of water received from Chicago we also secured outside help from Mr. WILLIAM CROOKES, F.R.S., who acted as consulting chemist in the conduct of the inquiry. But the actual and substantial work of the analyses, whose results were recorded in the copious tables of our report, was carried out in THE LANCET Laboratory, and as we stated at the time, when, for the purpose of verification, some of our experiments were independently repeated in Mr. CROOKES' laboratory, the results, as illustrated in the determination of chlorine, which was the experiment selected as a test, proved to be practically identical.

The next results reached in our Laboratory were embodied in a report, which appeared in THE LANCET of July 1st, upon the tannin and theine in China and Indian teas. This inquiry was directed to the practical end of making the scientific principles generally known upon which the successful infusion of tea depends, and, like the other work performed in this Laboratory, it had the interest of the community immediately in view. Other topics of equal public importance which we have in this way been able to illustrate by means of original research are the metallic contamination of aerated waters, the water-supply of London, the ice-supply of the metropolis, and the use of gas fuel in place of coal. This last subject in particular was dealt with in a report which collected the results of experiments extending over a period of twelve full months, and were conducted probably upon a more elaborate scale than any observations previously made upon the same subject. In this way we have supplemented the work of our professional brethren by bringing to bear upon matters of every-day life which have an important influence upon the health of the people the light of original research.

The work of THE LANCET Commissions has not, however, been limited to laboratory investigation. The collection and publication of statistics and typical facts for the purpose of putting the more obscure problems of public health in a clear light, or of making known what is being done in many quarters to improve the conditions under which we live, have always been a work to which these inquiries have been mainly directed. During the past year this tradition has been preserved by our report upon private action in respect of common lodging-houses, which had special and almost exclusive reference to the admirable efforts of Lord ROWTON in connexion with the common lodging-house founded by him at Vauxhall,[1] and by our very elaborate return upon the subject of the administration of chloroform and other anæsthetics from a clinical standpoint. This return forms an excellent example of the good results to be obtained from coöperative work. We sought instruction and enlightenment upon the subject from the whole of the medical profession individually at home and abroad, from every hospital in the United Kingdom containing more than ten beds, and from all the larger hospitals of the Continent, India, America, and our Colonies. As a result, we received a mass of authentic information upon the administration of anæsthetics which, as arranged, verified where possible, and collated, cannot fail to be of practical

[1] THE LANCET, April 29th, 1893.

value not only to all interested in the special topic but to all practitioners, if not to all the world.

Yet two other features in our work during the past year call, we think, for special remark even in a brief *résumé*. We refer, firstly, to the laborious investigation into the course of cholera in the south of Europe, which were carried on by our special commissioner for a period of over four months during the spring and summer, with results that we have reason to know have been of the greatest use in numerous quarters; and, secondly, to a valuable and exhaustive report upon seamen's dietary, which appeared in our issue of Feb 11th, 1893.

Of the other branches of our work it is not necessary to speak in detail, partly because their regular recurrence week by week makes them perfectly familiar to our readers, and partly because they are less distinctive of our own labours. The matters to which we have here particularly referred represent the latest adaptations of our labours to the exigencies of the hour, and we have dwelt upon them for the purpose of placing before our readers as full a statement as possible of our methods and our aims. By the light of this statement we are well content to be judged. In facing the work of 1894 we claim, as we have claimed before, the support and confidence of the whole profession of medicine in the United Kingdom; and we put this claim forward with the utmost confidence that it will meet with a generous response. Only by experience of such confidence in the past have we been able to accomplish the work which gives us to-day some meed of justification for its renewal. Only by a continuance of that confidence can we hope to deal successfully with the equally onerous and equally responsible duties which await us in the future. But, feeling ourselves so supported, we entertain no misgivings as long as we can speak in the name of the medical profession and collaborate with all its serious practitioners and students in the great work to which this noble art is devoted. It will be at once our highest ambition and our most cherished hope thus to serve in our generation and to discharge our responsibilities according to the full measure of our power.

THE claim of the general practitioner of medicine in the United Kingdom is one that is too little considered by the public at large. It is not inappropriate in beginning a new year—which, we trust, will be a happy one to our readers—that we should devote a few words to this subject. The general practitioner is too little considered. He may be summoned urgently to a case at any moment of the night or day, and his attendance may extend over weeks or even months; it may be an anxious one, inconvenient, exacting; half-a-dozen other patients may have to wait daily till this case is disposed of; the practitioner's own rest may be broken at nights and his leisure at meal times invaded; social engagements of importance may have to be abandoned. Such are the inexorable conditions of medical practice in its "general" aspect as distinguished from its special or its consulting branches. When the case is so serious that a consultant has to be called in the honorarium is rarely a matter of doubt. We say rarely, because we are aware that there is no absolute security, even in these lofty regions of practice and among the highest classes of society, for the payment of fees. Did not *noblesse oblige* dictate otherwise, some of our leading consultants could disclose striking illustrations of injustice and ingratitude at the hands of patients who feel a certain security in their very rank and in the rank of those who advise them. But as a rule such fees are safe and forthcoming. So also in the regions of quackery and of secret and pretentious nostrums money is generally forthcoming. The patient who has lived on medical charities or the good nature of a local practitioner for years, or requited him with the meanest pittance, will find little difficulty in scraping up an exorbitant sum for an unknown drug promising impossible results, or for the reduction of a fracture or a dislocation which exists only in the imagination of a bonesetter. Fear and hope alike combine to produce a credulity which invents its own means of reward, but which is singularly in abeyance when only the faithful and regular services of the neighbouring practitioner have to be recognised. The unqualified and unprincipled charlatan has the strange power of extracting money from both rich and poor for bogus services—

> "No class escapes them—from the poor man's pay
> The nostrum takes no trifling part away."

We wish we could see more clearly any evidence that this credulity is becoming less among the people, and that free and liberal education was making them more discerning alike as to the distinction between quackery and regular medicine and the claims of their respective representatives. It is for the medical profession to quicken the development of this discernment. It must do so mainly by being true to itself and to its own sense of self-respect. Our columns testify constantly to the fact that some medical men betray both their own dignity and that of the profession. We think it our duty almost weekly to give illustrations of this evil in the profession. We do not wish to exaggerate the evil, but it is very great. The abatement of it is the duty of, and ought to be the concern of, every man on the Register. We are aware of the excuses for such practices, but they are of no force. The methods we complain of do nothing to advance the individual, and they do much to degrade his profession, for the dignity of which he is responsible. Such methods of practice are really, we believe, practised by a very limited number of men, but they affect injuriously their neighbours and colleagues, and tend to lower the estimate of medicine as a calling, especially in the locality in which they are followed. Apart from these really low and degrading forms of practice, many honourable practitioners are far too modest in valuing their own services. Men who are ready for every reasonable service in medicine, surgery or obstetrics, and ready at all hours of the night and day, sometimes exhaust their own lives and energies prematurely, and leave their families with nothing to represent the work they have done. Those whom they attend and who are benefited by their services are not taught to appreciate them. It is not altogether the fault of patients. They require to be educated to a proper sense of what is meant by medical education and medical skill, and it behoves every man who is conscious of having honestly educated and equipped himself for practice—not, indeed, to think of himself more highly than he ought to think,—but to think adequately and self-respectingly, remembering, too, that he represents a great fraternity of labourers in science

and in research as well as in practice. We cannot all be engaged in research. Medicine has to be applied. It has to be seized at its practical points and carried to the bedside of every sufferer. Those engaged in research and those engaged in practice are one family, one army of workers, who have to support each other and to encourage each other in a world that is little interested in medicine, save in the emergencies of disease, which are for the most part so mitigated and controlled by medicine itself as to be soon forgotten. It will be right for medical men to raise their own valuation of themselves. We know the competition that exists in the medical profession as in every other department of life. The Medical Directory, just published, shows that in London there is one medical man to every 750 of the population. This is a large supply; but it is no reason for lessening the public estimate of that which the profession has to give. It is a reason for raising it high: first, by continuous effort to keep pace with the medical art in all its branches, which is the true way of making our work pleasant and easy; and secondly, by educating our patients to a true conception of the value of medical service. This is the duty of men alike in regard to private practice and to those appointments for medical attendance on great numbers of well-employed people, in organised associations—appointments which interfere seriously with the legitimate field of private practice. We have spoken as if the estimate in which the profession is held depended solely on its own members. We do not forget, however, that the public has its own responsibilities in this matter, which it cannot ignore with impunity. Complete, nay almost pitiable, is the dependence of men on their medical advisers in hours of peril and of pain—when common knowledge and even high culture avail nothing. This is abundantly admitted on platforms and in newspaper articles. But there has been a tendency of late years to treat medicine shabbily—as a thing to be got in hospitals, or associations, or clubs, or chemists' shops. This is to starve it, and to deprive individual men of that which is their greatest advantage in sickness—the particular care of an educated man.

THE science of physiology is linked with that of pathology in a twofold fashion: thus the knowledge of normal function is often greatly advanced by inferences deduced from observation of perverted function, and, *mutatis mutandis*, the results of inquiry into physiological processes go far to explain the changes exhibited by the pathological. It would seem that, in order to possess a complete knowledge of the meaning and purpose of any organ of the body, it is necessary to have light thrown upon it from each of these sources and to use the one to correct or to amplify the experience gained from the other. No better illustration of the truth of this principle of the nexus between health and disease could be afforded than in the history—still far from being completely recorded—of the progress of knowledge concerning the functions of the so-called "ductless glands." Believed in some way to be essential to healthy nutrition, the efforts of physiologists have been for long directed to determine their precise office in the economy, but with partial success; and it is only when the study is made to include morbid states as well as normal that a clue seems to be gained to the solution of much that was hitherto mysterious and obscure. So much has been gained in this direction of late concerning the thyroid gland that it is legitimate to hope for a still wider extension of knowledge concerning some of its fellow organs whose precise functions yet remain unknown.

We may on this occasion limit ourselves to one branch only of this interesting subject and review the chief gains to knowledge concerning thyroid function which have accrued from pathological observation. In the first place it is necessary to clearly separate in idea those morbid conditions, which are, so to speak, accidental or partial from those which are essential to the function of the organ. That such a division is needed must be obvious from a comparison with other organs whose functions are known. The condition which we term "nephritis" will derange the essential function of the excretory organ, but a renal sarcoma or a cyst may exert no influence at all upon this function, because the rest of the organ or its fellow still retains the powers inherent in it. It is conceivable that an organ may be very widely destroyed by a lesion and that the integrity of the small remaining part should be adequate to fulfil the function of the whole. In the case of the thyroid gland the commonest and best known of its diseases are those in which so far no appreciable change is induced in the organism at large. The dangers of goitre are mainly those arising from mechanical interference with the important structures in relation to it. The histories of cretinism and of myxœdema, however, point to a different conclusion. Here we find profound changes affecting the whole body, and especially the all-pervading connective tissue system, and also the higher functions of the nervous system, associated with an absence or atrophy of the thyroid gland. There is no need to tell the tale of myxœdema anew. It is one of the permanent gains of this generation from clinical and pathological observation; and its importance has been corroborated by the allied phenomena of "cachexia strumipriva" as observed after total ablation of the thyroid gland.

Professor GREENFIELD, in his recent interesting and suggestive Bradshaw Lecture,[1] rightly maintained that inferences as to the function of an organ based on phenomena produced by its removal or atrophy are apt to be misleading; at any rate, they exhibit only one side of the picture and require to be supplemented by observations of a more positive kind, those in which there is excess or perversion of function rather than abeyance. His thesis was to show that Graves' disease exhibits an example of such active change in the thyroid gland, a supposition which gains considerable support from the contrast between the clinical features of the two affections. This is not the first time that attention has been fixed upon thyroid changes as of primary significance in this remarkable affection; indeed, the term "exophthalmic goitre" seems to have been discarded because it implied too strictly the predominance of thyroid influence, for as the affection became more widely known in all its varying features the absence in many cases of any obvious thyroid enlargement led to an explanation of its symptoms apart from change in that organ. The affection characterised by palpitation, rapidity of cardiac action, tremor, flushings, sweatings &c. seemed rather to hold a place amongst nervous disorders, and

[1] THE LANCET, Dec. 16th and 23rd, 1893.

especially of sympathetic nerves and ganglia, a view of its pathology which is seemingly confirmed by the somewhat meagre results of morbid anatomy. It is not long since we published a very complete account of Graves' disease by Dr. HECTOR MACKENZIE,[2] who argued forcibly in support of its being classed among the functional neuroses. Professor GREENFIELD, however, has powerfully redirected attention to the thyroid gland as being the primary seat of the phenomena, and has supported this opinion by a demonstration of marked anatomical changes in the gland. He showed further that there is no vascular dilatation within the gland itself and that the essential changes in its structure may take place without leading to any manifest enlargement of the organ as a whole. Hence there is sufficient ground for the belief that the nervo-vascular phenomena of Graves' disease are due to the action of excessive or perverted thyroid secretion; and the recent experiences of the effects of thyroid extract when administered in excessive doses lend support to that notion. We are sure that a detailed work on the whole subject from the pen of Professor GREENFIELD would be a most welcome addition to science, and we trust that he may see his way to undertake it. It would not be difficult to urge that in many cases the early appearance of nerve symptoms seems to exclude a thyroid origin for Graves' disease, but it is conceivable that the very condition of the gland which acts upon the nervous system can be excited through nerve influence. The problems may be more intricate than they appear on the surface, but at any rate the idea of primary thyroid derangement is one which, if correct, must carry with it very different notions of the treatment of the affection to those which are at present entertained.

WE use the words in no political sense when we claim for the founder of THE LANCET the title of first "Medical Home Ruler." To make the profession master in its own house was the ideal of THOMAS WAKLEY'S life, as it has happily been the result of his labour. In what condition he found it struggling we sketched just a twelvemonth ago. "Paternal government," in the worst sense of continental absolutism, guided—or, more truly, "controlled"—its destinies. Medical appointments, whether in the lecture room or in the clinical ward, whether in the operating theatre or at the examining board, were all made under a close system, which excluded independence of character and originality of thought. Every post, from the highest to the humblest, was filled with the nominees of an all-pervading nepotism. The grandmotherly conditions under which the medical generation grew up were admirably fitted to perpetuate themselves, involving as they did the whole life of the profession, from its qualifying to its practising stage, in an atmosphere which perverted when it did not choke development. And yet only from within could the work of revolution and rehabilitation be effected.

"Video meliora proboque:
Deteriora sequor,"

was the feeling, not seldom the language, of many a weary yet acquiescing spirit in the profession, till at length, when least expected, at the hour which harbingers the dawn, there sprang into the arena a young surgeon whose character, upbringing, and experience were such as actually to force upon him the enterprise which had waited so long for its champion. The sequel is now familiar history. The instrument he worked with was THE LANCET, and one by one the corporations, unwieldy with self-indulgence and the retributive hypertrophy, after doing awkward and ineffective battle with their ubiquitous assailant, succumbed to his incisive and centripetal attack. The bull's-eye of publicity was thrown upon the jealously-guarded purlieus of privilege. The fierce light of the press beat pitilessly on the shady corners of favouritism and jobbery. Free teaching, free appointment, all in the opening competitive arena, replaced the close system—now rapidly dwindling to inanition—till the profession attained the vantage ground which is the envy of its sisters, acknowledging no claim to promotion but that of individual merit, and no principle of appointment but that of universal application—*detur digniori*.

Yes, Medicine is now master in its own house, by a process of decentralisation and devolution which fosters the most unrestrained life while binding every member more effectively, because more organically, to the common centre. The very instrument by which this healthy autonomy was initiated and carried out is that by which its working becomes yearly more harmonious and efficacious. The publicity given by THE LANCET to observation and research, to experience and induction, the opportunities it presents, the facilities it affords to discussion and friendly controversy, are all factors conducing to the enlightenment of the practitioner and to the improvement of his work. "From the illumination of many minds on many points," says the positive philosopher, "truth will finally emerge," and to that illumination there is no contributor so effective as the medical journal. In its columns the profession may scan its features from time to time, as in a mirror. It forms the "Dionysius-ear" by which the investigating, the practising world may be overheard while thinking aloud. No passing addition to the sum of knowledge, no fugitive comment on the same, but is noted and put *en évidence* for the behoof of the practitioner or teacher. By this means the profession becomes alternately author and critic, and, in the interplay of these functions, it sifts or it sets aside, it classifies or it preserves, according as its judgment is confirmed by experience—to begin the process anew till a nearer approach is made to that truth which is the working ideal of science. The significance of what we have been saying will appear to anyone who cares to dip into the back numbers of THE LANCET—a pastime, as more than one busy practitioner has told us, at once entertaining, instructive, and reassuring. From decade to decade, or even from one shorter period to another, the reader can watch the rise and progress of many a fruitful and sound doctrine, as well as the decline and fall of others—more specious, indeed, but which "had not the root of the matter" in them. From the comparatively objective and readily-appreciable suggestions of the surgeon, to the obscurer, more problematical, flights of the physician—ay, up to the subtle and tentative generalisations of the medico-psychologist, with his latest theory of "criminal anthropology"—the columns of THE LANCET register the first conception, the maturer development, the provisionally or finally accepted form, of many a contribution to diagnosis and treatment the history of which—as unfolded between author, critic, and impartial outsider—is also a

[2] THE LANCET, Jan. 21st, 1893.

history of the contemporaneous medical mind. Instances in point will occur to any reader of THE LANCET within the last generation, and the conclusion he will inevitably draw from them must be one of congratulation and hope: congratulation that the profession avails itself of every means of self-instruction and self-perfection; and hope that the future will register steady improvements on the past till the working ideal of the practitioner is attained.

This essential autonomy of Medicine as science and as art dates from the intervention of THOMAS WAKLEY in the arena of innovation and reform. It is not for us to appraise his work in detail, but, having adumbrated the direction in which it lay, to leave that duty to others. If, as the great French writer has said, "the judgment of foreigners is that of a contemporaneous posterity," we can have no difficulty in anticipating for him the niche he will occupy in the history of Medicine. Take one estimate of him out of many we could adduce—the estimate formed of him by his German eulogist in the great "Biographisches Lexicon der hervorragenden Aerzte aller Zeiten und Völker" (Biographical Lexicon of the Prominent Physicians of all Periods and Nationalities), published at Vienna five years ago. On page 172 of the sixth volume the biographer enumerates the high results achieved in the education and standing of the British practitioner as compared with what they were seventy years before, and all these he attributes unreservedly to the founder and conductor of THE LANCET. "Darum muss er als der bedeutendste englische medicinische Publicist der Neuzeit bezeichnet werden" (For that reason he must be designated as the most important English medical publisher of modern times)—a judgment confirmatory of that pronounced just thirty-two years ago by the leading medical organ of Central Germany. With such testimony we are satisfied, and on such we are content to leave the founder of this journal as on a pedestal of which, as his German panegyrist sets forth, "the main block will ever be recognised as the autonomy he vouchsafed to the profession."

Annotations.

"Ne quid nimis."

THE VICTORIA CROSS AND THE ARMY MEDICAL SERVICE.

THE Army Medical Staff may fairly point with pride to the long list of its members upon whom the Victoria Cross has been conferred, and the profession generally shares the gratification of the medical service. Turning to the Medical Directory for 1894 we find, under the head of Members of the Profession who have received Titular Distinction, no less than thirteen names recorded as having received the Victoria Cross. To that list must now be added the name of Surgeon-Major O. E. P. Lloyd of the Army Medical Staff, upon whom the Queen has just signified her intention of conferring this decoration for his conspicuous bravery during the attack by the Kachins on the Sima Post on Jan. 6th of last year. As everyone knows, the Victoria Cross is the proudest and most coveted distinction that can be won by the soldier. There is one circumstance which should not be forgotten, and it is that, in the case of medical officers, the service in which the conspicuous bravery has been exhibited has almost invariably been in connexion with the saving and not the taking of life; and in the latest instance we learn that Surgeon-Major Lloyd ran out to the aid of a fatally wounded officer under a close and heavy fire, remained with him until further assistance could be procured, and then assisted in carrying the officer back to the fort, where he died a few minutes afterwards. There are always, we are proud to say, brave men ready to risk and sacrifice their lives when any occasion occurs which makes a call upon their courage, their humanity, or their sense of duty, and far be it from us to institute any disparaging comparisons between different exhibitions of bravery, devotion, or gallantry; still, we cannot help recognising that there is a distinction between an act of conspicuous gallantry performed under the influence of excitement in war and the sustained courage which enables a man to go to the aid of another under heavy fire, and to remain with him whilst those around are being shot down. The dangers are not encountered to destroy a foe, but to save a life, and the effect may not possess the brilliancy or stand out so prominently in the public eye as leading a charge, but it is, nevertheless, an exhibition of the highest and purest form of courage of which we may all feel proud.

THE LANCET RELIEF FUND.

THE fifth annual report of the Almoners of THE LANCET Relief Fund, together with the balance-sheet for the year 1893, will be found on page 50. It will be noticed that in the course of the year the sum of £371 has been granted in relief either by way of loan or of gift, and that repayments of loans to the amount of £32 10s. have been made, leaving a balance of £133 4s. to the credit of the Fund. On Jan. 1st the Proprietors of THE LANCET paid into the London and Westminster Bank the sum of £300, so that the Fund commences the year 1894 with £433 4s. 0d. to its credit. The Fund having now been in existence for five years, we are enabled to gauge somewhat precisely the practical value of its work in rendering immediate help to those members of our profession who, unfortunately through the stress of circumstances, may have fallen into urgent need of temporary pecuniary assistance, or in affording relief to the distress of widows or children of medical practitioners who may have found themselves, by the death of their breadwinners, left without immediate means of subsistence. It would not become us to dilate on any services that may have been rendered by the Fund, but we may perhaps say that we are satisfied that in many cases it has been enabled to compass the ends which we had in view at the time of its establishment. We wish to express our sense of gratitude to those eminent leaders (some, alas, no longer with us) of our great profession who, during their respective tenancies of the presidential chairs of the Royal College of Physicians of London, the Royal College of Surgeons of England, and the General Medical Council, have so willingly and so ably afforded their coöperation as Almoners in the administration of the Fund. It is hardly necessary to remark that, from the nature of their public and private avocations, their time is fully occupied; nevertheless, they are invariably willing, whenever the secretary of the Fund calls upon them, to at once take into consideration and deal with the merits of a case. In some cases help given quickly is of inestimable value, and by such prompt attention on the part of the Almoners a cheque can, in urgent cases, be sent by return of post. In taking this opportunity of expressing our appreciation of their kindness we venture to think that we shall have the concurrence of the profession at large. At the last meeting of the Almoners the following resolution was passed:—"The Almoners desire to express their sincere regret on the occasion of the death of Sir Andrew Clark, and to record their profound gratitude for the inestimable services which he rendered to the Fund during the period of five years by his zealous attention to all its requirements"—a copy of which was directed to be sent to Lady Clark and Sir James R. Andrew Clark. A vote of thanks was also passed to Mr Bryant (late President of the Royal College of Surgeons) for

his valuable services as Almoner, and to Sir Henry Pitman for kindly undertaking the duties of Hon. Auditor. Upon the retirement of Mr. Bryant, from the Presidency of the Royal College of Surgeons, his successor, Mr. John Whitaker Hulke, F.R.S., as President of the College, became an Almoner; and on the death of Sir Andrew Clark, Dr. J. Russell Reynolds, F.R.S., the recently elected President of the Royal College of Physicians, likewise consented to serve in that capacity. Owing to the press of matter in the current issue we are compelled to postpone the publication of the Forms of Application until next week. Such forms, however, can always be obtained by writing to Mr. Edward Davies, the Secretary of the Fund, THE LANCET Offices, Strand, W.C.

THE DIFFUSION OF SMALL-POX.

IN several large towns there is some diminution in the distribution of small-pox during the week ending Dec. 30th, 1893, as compared with the preceding week. Thus, in Birmingham the fresh cases fell from 66 in the former week to 38 last week; in Walsall they fell from 33 to 26; in Oldham from 15 to 6; in Chadderton from 19 to 2; in Wakefield from 14 to 2; in Bradford from 14 to 12; and in Bristol from 16 to 13. On the other hand, there was an increase in West Ham, where the new attacks were 11, and amongst other attacks there were as follow: Aston Manor, 5; Leicester, 2; Rowley Regis, 2; Dewsbury, 2; and several instances of isolated attacks. In Birmingham over 200 patients were still in the Small-pox Hospital at the end of 1893, and in Stroud, where there were 19 attacks, the local board of health decided to fit up some slaughter-houses as the best makeshift hospital that could be quickly provided. In the hospitals of the Metropolitan Asylums Board 85 small-pox patients were under isolation on the 1st inst.

CONDEMNED MEAT.

MR. LAWRENCE-HAMILTON has written to us urging that all condemned meat, fish, &c., which is seized by the sanitary authorities should be consigned to a properly constructed furnace for destruction. His letter has been evoked by an advertisement of the City of London Corporation inviting tenders from persons who are desirous of utilising such condemned material for manurial or allied purposes. Mr. Lawrence-Hamilton not only sees danger in the transportation of such matter through a crowded city, but he hints at the possibility of crops being rendered unwholesome when manured with such stuff. He further hints that this condemned food may be surreptitiously worked up into comestibles of a more or less tempting nature. To deal with the last contention we must remind our correspondent that the Justice who condemns the food is obliged to order its disposal in such a way as "to prevent its being exposed for sale or used for the food of man." It surely cannot be a difficult matter to be tolerably certain of the *bona fides* of the purchaser and to insure that his dealings with the material are not of a nature to prejudice the public health. Even supposing that such matter is destroyed in a furnace it must be remembered that it has to be taken to the furnace, and that the necessity of conveying it through the public streets would not be avoided. It is hardly desirable that such furnaces should be in the centres of crowded places. The condemned stuff must be carted to the outskirts, and, that being so, properly constructed closed vehicles are necessary, and we fail to see why, when once it is enclosed in a properly covered receptacle, it should not be taken any reasonable distance. It is not altogether advisable to neglect the economic aspects of the question. If the condemned material is removed by a contractor to be "dealt with" this is probably the cheapest for the ratepayer; while if it is to be burnt not only has the furnace to be built but there is a constant drain for fuel, wages, and repairs. The products of combustion would certainly foul the air, and if the combustion were imperfect there would be nauseous odours as a result. Clearly a very sure case ought to be made out as to the definite evils which have resulted from the prevailing methods of dealing with condemned offal before the more expensive measures (which are by no means free from sanitary drawbacks) are forced upon the ratepayers. If glue, tallow, and manure can be obtained from such matter without serious risk to the public health, sanitarians ought carefully to abstain from interfering without adequate grounds for so doing. To do so is to destroy industries, to throw labourers out of employment and to impoverish the soil. Agriculture in this country has sunk to a dangerously low level, and this is having the effect of driving the population from the healthy country into the comparatively unhealthy towns. Farm labourers are about the healthiest class of the population. Taking the average mortality of the entire population as 1000, the farm labourer has, according to Dr. Ogle, a mortality of 701, while that of the London labourer is 2020. If we starve the soil we shall inevitably raise the mortality of the whole country, be driven to import more food, and be still further dependent than we are at present on huge and expensive armaments for the purpose of maintaining our existence. The handling of condemned offal may be a dangerous trade, but, in the face of the low mortality of farm labourers and gardeners, the manipulation of dung and manures, which must often contain pathogenic organisms, cannot reasonably be regarded as dangerous employments. Decayed fish has long been regarded as a valuable manure; and although when freshly applied it is far from savoury, we are not aware of any well-established facts which point to its being a danger to the public health. Possibly some of our readers may be able to give us the details of the manipulations to which condemned food and offal are subjected by their purchasers.

THE TRAINING OF RAILWAY SIGNALMEN.

A REPORT recently furnished by Major H. A. Yorke to the Board of Trade on the collision which occurred at Everingham Station on Nov. 6th, 1893, has once more directed attention to a standing defect in our system of labour—namely, the lack of technical instruction. We may notice this in almost any department of industry, and never without perceiving its inevitable consequences in error and incapacity. Some kinds of work, no doubt, require less intelligence for their accomplishment and suffer less at the hands of a tyro; but it is, and it must be, true, nevertheless, that in every case the way to success is by learning. We may close our eyes to the fact if we choose when personal interests alone are involved, but it is obvious that we dare not, and must not, whenever the workman's position is one of trust and responsibility. Such it is, beyond all question, where the duty involved is of so critical a nature as that of the railway signalman. In the case already referred to the signalman's cabin was for the time being in charge of an imperfectly qualified porter. The result we know. Furthermore it appears that discipline at the station itself was lax. Rules were neglected and matters generally seem to have been administered in a haphazard fashion. Clearly a change of method is needed, and we fail to see that railway companies can in such a case absolve themselves of blame by transferring this to the shoulders even of immediately guilty persons in their employ. It is not the men alone but the system which is in fault, and what is urgently called for in the interest of mere public safety is primarily the due recognition by the official authorities of their own duty in the matter. After what has been taught by experience not only in this but in many other instances it should be insisted on that none but thoroughly capable persons should be at any time in charge of the signals. If in any case a learner is entrusted

with them he should act only under trained supervision. To provide this, technical instruction must of course be adequately extended. It should imply theoretical as well as practical teaching, and it should take note of personal qualities of character and physical adaptation. Above all, it must succeed in impressing the trained official with a full sense of his personal responsibility. We would add a reminder that the familiar evil of overwork, if permitted to continue, must result in failure and possibly in disaster in spite of the most efficient course of education.

THE NUMBERS OF THE PROFESSION.

THE Medical Directory for 1894, now published, gives the following as the numbers of the medical profession for the year 1894. In London, 5590; in the provinces, including Wales, 14,897; in Scotland, 3107; in Ireland, 2485; registered practitioners resident abroad, 3209; naval, military, and Indian Medical Services (excluding those which appear also in other lists), 2426; "too late" list—additional names, 58. The total number of practitioners in the Directory for 1894 is 31,772, as against 30,759 in the previous year. This shows an increase in the twelve months of 1013. The obituary list, which seems to be wonderfully complete, gives the deaths as 639. The above figures give one medical practitioner in London for every 750 of the population; in the Provinces, one in 1650; in Scotland, one in 1300; in Ireland, one in 1900; and in the United Kingdom generally, one in 1450.

THE PERILS OF FOOTBALL.

THE football season of 1893-1894 is just at its height—indeed, when we recollect the late period of spring into which the winter pastime is now prolonged it is doubtful if the chase of the leather has yet reached its zenith—but already we have had to chronicle five deaths which have occurred immediately upon injuries received during the game, and numerous serious accidents, any proportion of which may since have resulted in permanent loss of health, crippling, or disfigurement. Further, it must be remembered that we make no special effort to obtain a complete roll of these casualties, but that we simply record them as we chance to come across them in the columns of our contemporaries, so that, as we have previously pointed out when dealing with this subject,[1] we do not pretend that our notes from week to week represent even a small fraction of the mischief. There can be no denying that a pastime which has accounted in four months, even by our confessedly imperfect records, for five sudden deaths, two concussions of the spine (in one of which it was stated that "three ribs were torn from the spinal column"), one concussion of the brain, one fracture of the thigh, sixteen fractures of the leg (some of these were simple and some compound, some of each and some of both bones, but further classification is unnecessary), nine fractures of the clavicle, and two of "the arm" is a dangerous one. But in saying this we do not condemn out-of-hand a fine and manly sport, or shut our eyes to the many factors which combine to make the danger really much smaller than the gruesome details above would tend to show. The value of a form of exercise which appeals by its splendid athletic possibilities as much as by the moderation of its demands on their time and purse to the whole of a people simply cannot be over-estimated from a health-giving point of view, while the roll of disaster becomes comparatively insignificant as the number of players becomes larger. These things are obvious, but unfortunately the impression remains in the minds of many that the element of danger in football is unnecessarily great. Is it? This and a second question—if so can practical steps be taken to lessen the danger without spoiling the game?—are not to be answered without thought, or on the spur of the moment. They have to be fairly considered from many points of view, and we propose to return to the subject.

[1] THE LANCET, May 30th, 1891.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

WE understand that the desirability of instituting some memorial of their late President, Sir Andrew Clark, and, if the proposal be approved, the question of the form which such a memorial should take will be submitted to the consideration of the Fellows of the Royal College of Physicians of London by the President, Dr. Russell Reynolds, at the next general meeting of the College on Jan. 25th.

SMALL-POX AND VACCINATION IN THE BIRMINGHAM WORKHOUSE.

ALL but the anti-vaccination party will be grateful to Mr. Hopwood for the question which he put the other day to Sir Walter Foster in the House of Commons as to the number of times that an assistant nurse in the Birmingham Workhouse had undergone revaccination before she contracted small-pox in a fatal form. The answer which Mr. Hopwood elicited was doubly valuable. It showed, firstly, that the poor woman had been ignorant enough to refuse to be revaccinated, and, as has so often happened before at Leicester and elsewhere, she was singled out by small-pox as the result; and, in the second place, it has exposed a serious defect in the administration of the workhouse. People have a right, if they choose, to refuse revaccination, but it is singularly unfortunate that when small-pox is prevalent and when it is known to be spreading to people inside the workhouse that the guardians should retain any officer in their service who refuses to accept vaccination. Such an officer is obviously a danger to young infants or to people who, on account of illness or otherwise, may not at the moment be able to be properly subjected to the process of vaccination or revaccination.

ESTIMATION OF THE TOTAL NITROGEN IN URINE.

THE total nitrogen in urine may be very conveniently estimated by means of the process now universally employed by chemists in estimating the nitrogenous value of foods and fertilisers. A definite quantity of the urine (from 5 cc. to 10 cc.) is treated gradually with 20 cc. of strong sulphuric acid in a flask into which a few pellets of mercury have been dropped, and gently boiled until the liquid is colourless, or nearly so. At this point the whole of the nitrogen will have been converted into ammonia, combined, of course, with sulphuric acid. The acid liquid after cooling is then transferred to a flask of large capacity and neutralised and made alkaline with a 20 per cent. solution of caustic soda after the addition, also, of about 20 c.c. of a 4 per cent. solution of sodium sulphide to decompose mercury-ammonium compounds. The solution is then boiled, the steam condensed in a Liebig condenser and the distillate passed into a solution of acid of known strength. From the reduction effected in the strength of the acid, which is ascertained by titration with standard alkali, the amount of ammonia or nitrogen may be readily calculated. A serious difficulty in the process is the bumping of the strong saline solution in the flask during boiling, and the consequent carrying over of the alkali into the standard acid, besides which, also, the glass flask is very liable to fracture. All this is obviated by a recent modification suggested by Mr. Vincent Edwards, which consists in substituting for the glass distilling flask a vessel made of copper. This not only steadies the boiling considerably, but amongst other important advantages it offers are

that it is unbreakable and may be used for a great number of experiments, that the distillation is finished more quickly, and that the flask may be placed directly over the flame of a gas-burner, so that when the light is once regulated it will require no further attention until the process is concluded. The difficulties attending the distillation of a strong solution of sodium salts have hitherto led many to shirk this method, but the ease with which such a solution boils in a copper flask will doubtless make this excellent and accurate process in its many applications still more popular. There is no novelty claimed for the suggestion except in its application, for it is well known that Arabian chemists centuries ago used flasks of metal—as, for example, copper.

OLD AGE AS A LAW OF NATURE.

IN orderly coincidence with the close of the late year's existence, a statistical report of existing centenarians who have lived in or died with it has just been published in the pages of a contemporary. It includes altogether thirty-three persons, the eldest, a woman, being aged 116. What is unusual, the number of males is in excess of that of females. Unfortunately the report affords us no information as to the habits or other personal characteristics of these old people. It is true that we are not without information, and that of a scientific and accurate kind, derived from other sources, and this is of considerable interest. In a study of the life history of the aged nothing strikes one more forcibly than the fact that life, in its latest period, presents itself very much as a state in which vital functions—enfeebled, indeed, though not always greatly so or even in an irksome degree—continue in active exercise under normal conditions. It is, in fact, the close and crown of a state of existence conducted throughout in regularity and moderation. Appetite, as a rule, has been good and has been indulged within reasonable limits. There seems to be little to choose between temperance and total abstinence in the matter of alcohol, though excess but rarely wins the reward of longevity. If in any direction it is allowable for competitors in the race of life to dispense with self-control, it would appear that they may to a great extent use this liberty with respect to physical and mental exertion. Nature has made large allowance for the inevitable necessity of labour and has even practically in some cases sanctioned an overstrain of energy provided that due care be taken to conserve the vital powers by temperance in other things. The life thus orderly lived usually ends as orderly, faculties, comfort, and even enjoyment continuing till, as if grown weary, it accepts a timely and final repose in the sleep of ages.

PROPOSED MEMORIAL TO THE LATE SURGEON-MAJOR PARKE.

ATTENTION has lately been directed to a meeting held in Dublin for the purpose of making arrangements for the erection of a memorial to the late Surgeon-Major T. H. Parke. It was fitting that a project of this kind should have its origin among the nearest kinsfolk and acquaintances of him whom it is intended to honour. There is, however, in this instance a propriety no less cogent in the appeal which calls upon his fellow countrymen everywhere to preserve the memory of his labours and his loss. In honouring him we revere not the man only, not his work alone, but more than either those imperishable qualities of character which, living and active (as they were in him), are the ever-fruitful seeds from which great actions grow. His instinctive but enlightened forethought, his enduring resolution, his cheerful devotion to duty, and his great freedom from self-concern should be remembered by any who in these days might perchance doubt the survival of heroic virtue. In his life they shone brightly; they illuminated his duty, well done, while a surgeon on military service; they made him, as Mr. Stanley has himself so clearly shown in the columns of THE LANCET, little else than a providence to the sorely tried Relief Expedition. To his companions he then seemed as a saviour. Can we remember what rewards were his when he returned to our shores? With his professional brethren, indeed, he stood in high honour, and not less assuredly was his rank with those whom he rescued on their perilous journey. Of the great body of his British fellow countrymen, whether in authority or not, it must, we fear, be said that they regarded far too lightly his work and character. We sincerely trust, therefore, that the opportunity now open to all who may still be induced to recognise and atone for the injustice done to one who was as unassuming as his exertions were memorable will not pass unnoticed and unemployed.

NEW YEAR HONOUR.

SURGEON-MAJOR ERNEST HARROLD FENN of the Coldstream Guards, who has been appointed Companion of the Indian Empire, is the only member of the medical profession whose name appears in this list. Surgeon-Major Fenn has for the past five years filled the responsible post of surgeon to the Marquis of Lansdowne, Viceroy of India. His previous services include the Afghan War of 1879, when he accompanied the column under Lord Roberts in its famous march from Cabul to Candahar. He was under fire at the battle of Candahar and was mentioned in despatches. On his return to England he was appointed surgeon to the 3rd Battalion of the Grenadier Guards, and later on he accompanied the Guards Brigade to Egypt, where it suffered severely from typhoid fever. In November, 1888, he sailed with the Marquis of Lansdowne to India as surgeon to his Excellency the Viceroy, and recently he formed one of the mission, under Sir Mortimer Durand, to the Ameer of Afghanistan. During his stay at Cabul he was requested by the Ameer to operate upon one of his officials for stone in the bladder. We congratulate Surgeon-Major Fenn on the well-earned honour Her Majesty the Queen has been pleased to confer upon him.

MOVABLE KIDNEY.

SOME interesting statistics as to the occurrence of movable kidney in women, which were given by Dr. Mathieu before the Société Médicale des Hôpitaux, are published in the *Revue Générale de Clinique et de Thérapeutique* of Dec. 9th, 1893. He examined 306 women who were admitted into hospital for other complaints and found the condition known as "movable kidney" in 45. He also examined 46 women suffering from severe dyspepsia, and found the kidney abnormally movable in 32 instances. This condition is rarer above the age of twenty-six years than under. Thus, of the patients between the ages of fifteen and twenty years "nephroptosis" was found in from 12 to 13 per cent.; between twenty and twenty-five years of age in from 22 to 23 per cent.; between twenty-five and fifty years of age in about 40 per cent.; and between fifty and seventy years of age in 25 per cent. In women who had given birth to children the condition was far more frequent than in those who had not. Thus, in 104 nulliparæ it was only found in 11·54 per cent., whilst in those women who had had one or more children the percentage rose to 33·80. In mild cases of dyspepsia, in which the symptoms did not call for any urgent treatment, from 68 to 69 per cent. of the women exhibited a condition of movable kidney, but when the cases were severe and symptoms were urgent the proportion rose rapidly to 2 of 3 cases. Dr. Mathieu is, therefore, of opinion that there is a distinct causal relationship between nephroptosis and dyspepsia. Dyspepsia, from whatever cause, is probably maintained and often increased

in severity by nephroptosis. The pain, repeated attacks of vomiting, and gastric crises more or less analogous to those occurring in connexion with tabes dorsalis are symptoms which appear to be frequently induced by the existence of a movable kidney, and when they arise this condition should always be sought for. The intensity of the symptoms does not seem to bear any relation to the extent of movability of the kidney, but in those cases in which nephroptosis has been shown to exist, and in which the symptoms above mentioned prove rebellious to treatment, Dr. Mathieu advises that resource should be had to surgical intervention.

THE PREVENTION OF CRUELTY TO CHILDREN.

THE latest monthly statement issued by the National Society for the Prevention of Cruelty to Children, that for December, does not differ in its essential character from most of those which have preceded it. The number of cases dealt with is still considerable, 1263 complaints having been investigated. Of these, 1157 were proved to be true, while as the result of 129 prosecutions 122 convictions were obtained. The report contains a special article on the prevention of immorality among children, in which notice is taken of a singular and injurious defect in our system of legal procedure in such cases. Under present conditions the male offender is alone liable to conviction and punishment, the female, who may be from the outset more guilty, being protected by a technicality which acquits her of an offence committed, even at her own instance, against herself. We must own to a decided preference for the view lately stated by Lord Coleridge—namely, that the whole object of the Act bearing on this matter is to protect girls even from themselves. An amendment which would give legal force to this view is eminently desirable. The society finds itself at the close of the year with a deficiency in funds of £5000, a fact which may safely be taken as clear proof of its extending labours, its increasing efficiency and energy, and the still urgent need of its humane vigilance; but this deficiency, we trust, will not much longer be suffered to discredit the name of charity. We would add that the society's treasurer is Mr. J. H. D. Ryder, whose address is 7, Harpur-street, Bloomsbury, London, W.C.—the central office of the society.

LORD COLERIDGE AND "VIVISECTION."

THE letter which the Lord Chief Justice has written to the Secretary of the Society for Promoting Christian Knowledge, however interesting it may be as a psychological study, must be very painful reading to the friends of its writer. Lord Coleridge is at perfect liberty to please himself as to what societies he will honour with his countenance and material help. Again, we do not quarrel with him for his method of conveying the information, which only affords us additional evidence of the fact that none of us, Lord Coleridge included, however eminent we may be in our own professions, have more than a smattering of what is outside the immediate range of our work. The Society for Promoting Christian Knowledge and its officials have at no time taken up "their position amongst those practising vivisection or advocating its horrors" (whatever that statement may mean). With that we have nothing to do. We cannot, however, but regret that a man in Lord Coleridge's position should undertake to give an opinion, so loosely expressed, on grounds which, were he on the bench, he would in all probability pass over as being utterly unworthy of consideration by any mind possessed of an ordinary amount of legal acumen. A good many people have to be lectured from the bench, and when the questions are strictly legal the lectures may do good; but if Lord Coleridge is to be looked upon as a specimen of the legal lecturer turning his attention to social, ethical, or scientific questions, we trust that, for his own sake, his friends will dissuade him from trying to forsake his "last." We do not wish the Society for Promoting Christian Knowledge to enter the lists on behalf of what is called vivisection—it is not part of their work to do so. Scientific men are now convinced that they have the approval of the majority of right-thinking Christian men; they know also that there are many earnest people who cannot sympathise with them in the matter of experiments on living animals; but they cannot allow this knowledge to interfere with them in the performance of what they consider to be a duty to both men and animals in the search for methods to alleviate their sufferings. The fulminations even of a Lord Chief Justice are of but slight importance when they are directed against things concerning which he has little knowledge and less wisdom.

BRAIN COMPRESSION BY BLOOD-CLOT.

DR. HARRINGTON reports in the *Medical News* a case which he thinks illustrates the need for immediate operation in cases of injury to the head which are followed by any sign of compression. The patient was a negro who had been struck with a stone above the right ear. He was suffering from headache and a bruise above the ear, but no sign of fracture was discovered. The only evidence of paralysis was a slight difficulty in phonation. Rest and aperients were ordered, but the headache continued. He was moved to a house a mile distant without medical permission. A week after the original accident he rapidly became unconscious, and when seen was bathed in profuse perspiration, and suffering from convulsions, the nature of which is not described in detail, every fifteen minutes. The man died in a few hours. At the necropsy it was found that the inner table was fractured at the site of the injury, and a blood-clot two inches in diameter extended forward and upward. The outer table was not injured. There is little doubt that such cases as this offer an excellent chance of recovery if an operation is performed in good time. The risk of operation under modern conditions is very small, and when the evidence of compression is undoubted there seems to be every reason for exposing the patient to what risk there may be in operation, rather than to the much more serious dangers to which he is liable if he is not so treated.

THE MEDICAL PROFESSION AND THE LIQUOR LAWS OF THE UNITED STATES.

IN the very interesting special article of *The Times* of Dec. 26th, giving an abstract of the account of the working of the Prohibition Laws in several States by Mr. E. L. Fanshawe, barrister, of the Inner Temple, at the instance of Mr. W. Rathbone, M.P., it is shown that more or less hope is still left for those who depend on the prohibited article. Very special prominence is given to the part played by apothecaries and druggists. Thus, in Des Moines, Iowa, the principal hotel has a drug store attached to it, which serves all the practical purposes of a cellar. When a guest orders liquor in the public dining-room it is served as a matter of course, but it comes from the drug store and is entered in his bill as a "pharmacy." Even in Portland, the port and capital of Maine, where the law is enforced with considerable vigour, the authorities sell it largely as "medicine" at the City Agency, and to the public profit. A small throng of patients commonly pass the doors and wait their turn to be served. "Obliging apothecaries" are to be found almost everywhere, as well as "practitioners" who will "prescribe" whisky from a bottle to ten gallons to be taken as required. As regards the City authorities who treat alcohol as a drug and the apothecaries we feel no special responsibility. The apothecaries of the United States, unlike ours, are pharmacists only, not medical practitioners. They are generally, we believe, a respectable body of men;

but we must leave them to the pharmaceutical authorities of their own country. It is otherwise with the statement that "practitioners" are to be found who use the authority of the profession for neutralising and evading a law. We may be pardoned for wishing more detail of evidence on this point. Our contemporaries in the United States would do good service by pressing for this. We pass no opinion on total prohibition; it is an affair which concerns the States which have adopted it, but no practitioner who respects himself or his profession will allow his disapproval of it to serve as an excuse for facilitating the coarsest drinking, or, indeed, even tippling. The medical profession has responsibility enough in prescribing alcohol *bonâ fide* in actual cases of disease. It is too often blamed by those who abuse such prescriptions and by others who ought to know better. While we should be prepared stoutly to resist the dictation of unreasonable prohibitionists, we are equally prepared to condemn those who oppose unreasonable laws with professional weapons and so bring the profession into disrespect.

ABSENCE OF THE CORPUS CALLOSUM.

ANOTHER case of this curious anomaly has been recorded in the *Deutsche Zeitschrift für Nervenheilkunde* by Dr. Heinrich Hochhaus, whose paper is abstracted in a recent number of the *Neurologisches Centralblatt*. The patient was a child of two years, with fair physical development but great mental backwardness. The head was unusually large. The child was unable to speak, and although it could move its arms and legs standing and walking and even sitting were impossible. The subarachnoid cavity was punctured at the level of the third lumbar vertebra, but there was no improvement, and the child died after a severe burn, about a year from the time it came under observation. On examination there was found to be complete absence of the corpus callosum, general hypertrophy of the brain, unusual abundance of convolutions, and characteristic alterations in the sulci on the median aspect. The lyra, the anterior and middle commissures, and the nerves of Lancisci were absent; while the ventricles, especially the fifth, were unusually large.

THE SCOTCH AND ENGLISH METHODS OF OATH TAKING CONTRASTED.

SOME of the illustrated papers which gave engravings of the Ardlamont trial gave one showing the Lord Justice Clerk administering the oath to a witness. His lordship is represented as standing up with uplifted right hand, the witness doing the same and repeating the words of the oath after him. Surely no one can help being struck with the solemnity of the scene as thus depicted, and the *Scotsman*, commenting on the daily proceedings, remarked that the English witnesses appeared to be much impressed with the solemnity of the oath as administered in Scotland. The Scotch method is simplicity itself. "Kissing the book" is not so, as was shown in a case which occurred at the assizes recently held in Liverpool before Mr. Justice Day. Nearly all the witnesses had been sworn and had duly "kissed the book," but when the last witness entered the box it was discovered that all had been sworn on the Pentateuch instead of the Gospels. It appeared so very important in the opinion of the learned judge that each witness should kiss the right book that all who had been previously sworn had to re-enter the box and to "kiss the book" (though not the same book) a second time. In presiding at the Lancaster Assizes the same learned judge is reported in the *Lancaster Observer* to have thus spoken of medical witnesses taking the oath in different ways: "He took the oath in the ordinary way, gentlemen—that is, he did not adopt what has now become the fashion among some doctors—you have seen them do it to-day—of lifting the hand. This is one of the latest medical theories, and these doctors," continued his lordship, "tell you that people get germs into their system when they kiss the book; germs, indeed—as if they could get germs by kissing a New Testament." Now there is no judge for whom we have a greater respect than for Mr. Justice Day, and, assuming that the above report is correct, we must all the more regret that he should have made such remarks. Sarcasm is a dangerous weapon, especially when, as in the present case, it can be so easily turned against the one who uses it. So far as we are aware, the term "germs" was used by a solicitor, not by a medical witness; but medical witnesses have urged that they incurred a risk of infection by handling and kissing a book which has been indiscriminately used by hundreds of witnesses of all sorts and conditions. And they are perfectly right. Possibly the danger may be changed into a fact sooner than either Mr. Justice Day or we are aware. Meanwhile medical and other witnesses who may prefer not to be made the subject of so interesting an experiment will avail themselves of the privilege—which every person taking an oath now enjoys—of swearing with uplifted hand, as in Scotland. Apart from germs or infection, it is a much more solemn and cleanly mode of invoking the Almighty, and is slowly but very surely coming to be more generally adopted. Mr. Justice Day's experience at Liverpool may, perhaps, have convinced him that kissing the book is not free from drawbacks of its own. And were he called upon to be sworn as frequently as some members of the medical profession are it is very probable that he might be moved to prefer the oath with uplifted hand.

ARTHUR GRAHAM GAMGEE.

THE daily papers recently referred to a terrible calamity which had befallen a member of our profession—Dr. Arthur Gamgee, F.R.S., Emeritus Professor of Physiology in Manchester—by the death of his only son, a youth of seventeen years of age and of remarkable character and attainments, who, in a sudden attack of insanity, committed suicide at Cheltenham on Dec. 17th, 1893. Arthur Graham Gamgee had in his fifteenth year won the first Classical Entrance Scholarship at Cheltenham and rapidly made his way in the school, obtaining in July, 1893, the second place in the Upper Sixth Form and beating the boy who had in previous terms been head of the school. Besides obtaining the Schacht German prize in 1892, the Hornby French prize in 1893, and within a week or two of his death the first prize offered by the Professeurs Français en Angleterre, Gamgee was the winner of the Greek Testament prize (1893), and of the Latin prose prize (1893); and his classical attainments and his intellectual gifts seemed to presage for him a career of the highest distinction. He was a boy of blameless life and of the highest moral and religious aspirations. Though avowedly much worried by anxieties which he had experienced on lately assuming the office of prefect, he was the last boy for whom so sad a fate would have been anticipated. The final act of his school life was to read the second lesson in the chapel on the evening of his death. The Rev. Dr. H. A. James, principal of Cheltenham College, expressed himself as follows in a private letter addressed to the poor boy's mother after the verdict: "I trust it was made abundantly clear that it (i.e., his death) was arrived at by some purely physical cause, and that nothing was further from his character and views of life than such an end as this. Having said so much, do let me say how profoundly I sympathise with you in this sad blow. It is not that I grieve to think of your sorrow, but that I *share* it to the very bottom of my heart, for I know the boy's high and noble character, and he had a very warm place in my heart, not hardened yet I hope by long years of school work. I cannot help bitterly regretting that I did not know more of his troubles in the house; I

should have felt for him and tried to do what I could. ..... It was *such* a pleasure to teach him. Fresh, original, and yet receptive and anxious to learn, he was the pupil a master loves to have, and I shall miss him sorely. To watch such a mind expand and to help it ever so little, is one of the dearest pleasures a schoolmaster can have. I know, too, how *entirely* loyal he was, true and genial to the very core. ..... There is only one thought and word about him among all who are worthy to judge. He was not an ordinary conventional character, the kind that wins popularity with his peers, but he has won a deeper and more worthy regard than that. I can say nothing I know to comfort you; the one true comfort is to know that he was just what he was and to have the hopes and assurances that come from that knowledge."

LATE ERUPTION OF A CARIOUS CANINE TOOTH.

DR WEIL gives, in a German contemporary, an account of the eruption, associated with caries, of an upper canine tooth in a patient over sixty years of age. When seen four years previously there were five teeth standing in the upper jaw, the others having been lost by alveolar absorption. The right canine was apparently missing, as the first bicuspid was in close juxtaposition to the lateral incisor. These two teeth were loose, and inclined forward in a labial direction. The bicuspid was removed with the fingers and artificial teeth were constructed. In a few months, however, a palatal swelling appeared behind the lateral, and the denture was discarded on account of the pain produced by wearing it. After some months the swelling had become larger and the patient complained of increasing tenderness, a sense of fulness and throbbing pain—in short, all the symptoms of periodontitis. This condition continued with more or less severity for about two years, when the tip of the tooth erupted in the palate. By examination it was ascertained that the erupting tooth, which was evidently the missing canine, lay in an oblique direction, and was so turned on its long axis that the labial surface was directed downwards into the mouth and the lingual faced the palatine process of the maxilla; further, a large carious cavity was found on the lingual surface, which was still covered by gum tissue, and a probe readily entered the pulp chamber, giving exit to some pus. The tooth, when extracted, was found to be a canine of ordinary appearance, and had no resemblance to a supernumerary tooth. The most remarkable point in this case, said Dr. Weil, was the large cavity of decay, with the consecutive periostitis.

POLICE ORGANISATION IN EGYPT.

THOUGH the force is upwards of 6000 strong, the Egyptian police administration does not include any medical organisation worth mentioning. Formerly a corps of medical men was attached to this semi-military body, being presided over by an English medical officer; but gradually the numbers dwindled down to three executive officers, the chief having long since vanished into the limbo of retrenchment, and at the end of 1891 an attempt was made to get rid of all medical responsibility by transferring the payment of the survivors to the budget of the long-suffering sanitary department. Quite recently, at the urgent request of the Inspector-General of Police, a fourth medical officer has been added, and the present arrangements, such as they are, may be briefly described as follows. The four medical officers are divided equally between Cairo and Alexandria, where they have to attend to all police cases and accidents, being charged also with the general sanitary supervision of prisoners, and with the care of the sick in barracks. The sanitary department undertakes the treatment of all policemen requiring hospital attention, but it is careful to eschew all other responsibility. In the districts where there are no Government hospitals, the men belonging to the force are entirely without medical aid. In cases of accident or sudden illness the patients have often to be conveyed miles, in a roadless country, before the services of a medical man can be obtained. There are many foreigners in the police force to whom this is a great hardship; but the natives are not yet sufficiently enlightened to care much about it. The European officers are the principal sufferers. The work goes on by the "rule of thumb," and the authorities will learn eventually that such a system—or, rather, want of system—is by far the more expensive in the end if efficiency is to be taken into account. The police administration has veterinary surgeons in the provinces and medicines for the horses, but for the inferior animal man there is no medical provision whatsoever. Besides the police, there is another disciplined body in Egypt totally destitute of medical organisation—namely, the Coastguard and Preventive Service. Such neglect can only be stigmatised as barbarous; it amounts, in fact, to a grave public scandal, and measures should at once be adopted to place the matter on a satisfactory footing. Three courses are open. The semi-military corps in question might be attached to the army, or to the sanitary department, for medical purposes, an addition to the respective budgets being in either case a preliminary essential, or else a special medical staff could be inaugurated to meet the difficulty in a direct way. The last course seems to us to be the best from every point of view.

DEATH OF PROFESSOR MILNES MARSHALL.

IT is a melancholy coincidence that the two distinguished young men to whose energies and genius the Cambridge school of morphologists owes much of its present success should have both perished on the mountain side. Some twelve years ago the scientific world was deeply lamenting the death of Francis Maitland Balfour, Professor of Morphology at Cambridge, who was killed while making the ascent of the then virgin peak of the Aiguille Blanche de Peuteret. Now Arthur Milnes Marshall, Professor Balfour's assistant at the inception of the morphological classes which have since developed into a professorial chair in the university, has met his death by a fall on Scafell. Professor Marshall was born in 1852. In 1871 he entered at St. John's College, Cambridge, having previously graduated as B.A. Lond. Here his scientific bias became evident from the first, and in 1874 he succeeded in securing the seniority in the Natural Science Tripos, a position occupied in the previous year by Professor Balfour. After spending a short time at the zoological station at Naples he returned to Cambridge as assistant to Professor Balfour in the organisation of his classes in comparative morphology, and in 1877 was elected a Fellow of St. John's College, Cambridge. Two years later he was appointed Beyer Professor of Zoology at Owens College, Manchester, to which institution his death will be a most serious loss, for as secretary, and later chairman, of the general board of studies, he took a highly active part in the arrangement of the educational curriculum of the Victoria University. He was the author of "The Frog"—a standard work, to which we need make no further reference—and of numerous papers published in the Proceedings of the Royal Society, in the Quarterly Journal of Microscopical Science, and in other places, dealing with the structure and development of different zoological orders. He was a Doctor of Medicine in the University of Cambridge and of Science in that of London, and was elected a Fellow of the Royal Society in 1885 in recognition of his highly valuable morphological work. We have said enough to show that the world of science has, by

the deplorable accident of Christmas Eve, lost in him a man who at the early age of forty-one had accomplished the labours of a full life, while holding forth every promise of doing still more.

THE BRABAZON HOME OF COMFORT, REIGATE.

THE quiet but useful work of this home has been steadily increasing since its foundation by the Countess of Meath in 1885. Like the Meath Home for Epileptics at Godalming, every effort is made to make it a real home of comfort, in contradistinction to an institution. Here homeless girls and young women suffering from chronic or incurable disease and invalids who are not eligible for any hospital can receive the rest, medical treatment, and the good food they so much need. The many applications that have constantly to be refused owing to want of room abundantly prove the real need that the home meets, but extension of the good work will rest entirely with a benevolent public.

THE CHAIR OF MIDWIFERY IN THE UNIVERSITY OF GLASGOW.

THE remarks which we felt bound to make last week on the unaccountable delay in filling the chair of Midwifery in the University of Glasgow were not made a moment too soon. From all that has reached us since then we should gather that the situation caused by this delay is full of inconvenience and disadvantage to the University, and especially to the students. It is a monstrous thing that the winter session should be thus far advanced without having a professor in so important a branch of practice and without even a class. Not only this, but there is the greatest anxiety in the profession as to the reasons for this delay and fears are entertained that it forebodes no satisfactory disposition on the part of the Scottish Secretary in the matter. There is practical unanimity among the leading members of the profession in Glasgow and elsewhere as to the candidate whose appointment would conduce to the real interests of the University and of obstetric science. The local feeling is the more remarkable and significant as it is not in favour of the local candidate. Sir George Trevelyan cannot be ignorant of the strength of this feeling. Perhaps—indeed, probably—it is his very knowledge of it, and of the powerful expression it has obtained, that makes him hesitate in the matter. He certainly will incur a very heavy responsibilty if he ignores this feeling. The Crown is credited with impartiality, with the power to ignore all personal and party considerations, and is expected to make an appointment on high public grounds. If the action of the Crown in this much-canvassed matter—so long and so strangely delayed—should in the end disappoint expectation, it will damage the very principle of Crown appointments. We sympathise entirely with the acute feeling of anxiety in Glasgow. Few appointments are more important than that which has now to be made, and in none is it more intolerable that any other motives should influence a responsible Minister of the Crown than that of a simple desire to select the best candidate.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Ohlmüller has been recognised as *privat-docent* in Hygiene.

Chicago (College of Physician and Surgeons).—Dr. J. B. Murphy has been appointed Professor of Surgery.

Groningen.—Dr. Beddingius has been appointed to the chair of General Pathology and Pathological Anatomy.

Rostock.—Dr. F. Reinke has been recognised as *privat-docent* in Anatomy.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. C. Warrington Earle, Professor of Midwifery at the Chicago College of Physicians and Surgeons.—Dr. Krahmer, Professor of Pharmacology in the University of Halle.—Dr. Merget, formerly Professor of Medical Physics in the Bordeaux School of Medicine.—Dr. Lellmann, Professor of Chemistry in Giessen, from influenza, while in the prime of life. He was a pupil of Lothar Meyer, and was first *privat-docent*, and afterwards Extraordinary Professor, in Tübingen, which he only left in 1892 on his appointment to Giessen. His principal work lay in the field of organic chemistry. His paper on the Principles of Organic Synthesis, which was published in 1887, is well known amongst chemists.

THE syllabus of a course of practical psycho-physiology to be conducted by Dr. L. E. Hill, assistant professor of physiology in University College, London, has just been published. In America and on the Continent psychology has for some years been made the subject of practical and experimental treatment, but in England Dr. Hill's proposed work constitutes a new departure. The lectures and demonstrations will take place on Tuesdays and Thursdays during the Easter term, commencing on Tuesday, Jan. 9th, 1894, and the inclusive fee is £4 4*s*.

SELIM PASHA, who was for many years physician to the late Khedive, died at Cairo on Dec. 29th, 1893. It may be remembered that he was in attendance upon Tewfik Pasha during that ruler's fatal illness, and that his medical conduct of the case was at the time made the subject of considerable adverse criticism. Tewfik Pasha's last words were, however, reported to have entirely absolved his physician from blame, while recently Abbas Pasha, the present Khedive, was formally reconciled to him.

TRAVELLERS to the Riviera should be warned that near Ventimiglia on the Italian-French frontier a serious outbreak of typhoid fever has occurred, which, appearing first in the barracks of the Alpine troops at Pigna, has spread to the civilian population. The local health officers have traced the epidemic to the impure water-supply.

MR. FREDERICK TREVES, F.R.C.S., will deliver the Lettsomian Lectures at the Medical Society of London, Chandos-street, Cavendish-square, W., on Jan. 29th, Feb. 12th, and Feb. 26th, 1894, at 8.30 p.m. The subject of the lectures will be Peritonitis.

FROM Malta, under date the 1st inst, we learn that the Government, in compliance with the petition of the Italian Consul, has abolished the quarantine imposed on all vessels arriving from Sicily and from the other Italian islands.

DR. R. THORNE THORNE, C.B., F.R.S., will on Wednesday, Jan. 10th, at 8 P.M., give an address at the Sanitary Institute, Margaret-street, W., on the subject of Diphtheria, its Causes and Prevention.

Pharmacology and Therapeutics.

LUNGILI—A POWDERED BARK FOR DIARRHŒA, DYSENTERY &c.

(LUNGILI CO., 35, LUDGATE-HILL, BIRMINGHAM.)

ALL the information we have in regard to the origin and history of this product is merely that it is the powdered bark of a tree which is a native of Eastern Africa. It is said to possess tonic and astringent properties which render it of service in the treatment of dysentery and diarrhœa. With the view of tracing the constituents in the bark to which these properties might fairly be ascribed, we have submitted the preparation to analysis at some length. In appearance the powder resembles other powdered barks, such as cinchona;

it yields a rich port-wine colouration to spirit, and the alcoholic solution so obtained possesses a remarkably powerful styptic taste. On evaporation a clear reddish residue is obtained, which gives all the characteristic reactions of tannin. The powdered bark on treatment with lime and hot chloroform yields a tolerable quantity of gum, which appears as a hard, yellow, glassy mass when the chloroform is evaporated. Careful search for alkaloids in this residue gave negative results. Further analysis furnished the following particulars: astringent matters soluble in water, 28·50 per cent.; fibre, with a small amount of starch, 52·6 per cent.; ash, chiefly carbonate of lime, 12·40 per cent.; moisture, 6·50 per cent. Since tannin occurs in many varied forms in different barks in which its properties are more or less modified, it would be of interest to ascertain whether this bark possesses astringent properties of greater value compared with ordinary tannin or other astringents with which we are more familiar. We have made a few clinical trials of the drug in suitable cases, but it is not possible to draw any definite conclusion upon the question without more extended experience.

ANALGEN.

(THOS. CHRISTY AND CO., 25, LIME-STREET, E.C.)

Analgen, which rejoices in the chemical name ortho-æthoxy-monobenzoyl-amido-quinoline, is a derivative of quinoline, and has been synthetically prepared by introducing a substituted amido group and an æthoxy group in para-position into the aromatic quinoline group. In chemical composition it is the analogue of phenacetine and antifebrin or acetanilide, with the important difference that it is a derivative of the quinoline group which possesses a distinct therapeutic and physiological action of its own, unlike the benzene nucleus from which phenacetine and antifebrin are derived. Its therapeutic action is similar to that of antipyrin. Analgen, we find, is a white crystalline powder resembling antifebrin, insoluble in water, soluble in acids, and readily soluble in hot alcohol. It melts at about 208° C. and burns with a luminous, sooty flame, leaving no residue. With nitrous acid it yields a magnificent yellow-coloured precipitate—a reaction which may serve to distinguish analgen from antipyrin, which similarly treated gives an emerald-green colour. The therapeutic action of analgen, as already stated, is like that of antipyrin; but its administration as a nervine in the treatment of neuralgia, migraine, and rheumatic pains gives, it is claimed, marked beneficial results without injurious effects or after effects. As regards its fate in the organism, it has been shown that either the molecule is destroyed entirely or separation of the benzoyl group takes place with complete oxidation of the residue. When separation of the benzoyl group occurs the urine is always of a dark reddish colour, caused by the action of the free amido produced in the uric acid. Analgen may be procured in the form of powder or tablets, or enclosed in the well-known Morstadt cachets.

EFFECTS OF HYOSCINE.

In a recent number of the *Practitioner* Dr. Gordon Sharp of Leeds gives a short account of his clinical experience of the hydrobromate of hyoscine. He was careful to procure a reliable preparation of the drug, being aware of the confusion which occasionally arises between it and hyoscyamine. Pharmacologically, it was found to resemble atropine, for when dropped on the heart of a "pithed" frog whose cardiac action had been suspended by the action of nitrate of muscarine, it caused resumption of the action. Chemically, it appeared to differ from atropine in only slowly reducing mercuric chloride, while atropine did so rapidly. The administrations clinically were three in number. The first patient was a man aged thirty-five years, who had been a heavy drinker for years and who had also at one time suffered from nephritis. He had been drinking for weeks, and symptoms of delirium tremens were already manifesting themselves when he came under observation. When first seen it is said that $\frac{1}{3}$ gr. was administered, but from what follows it is evident that $\frac{1}{30}$ gr. is meant. It did not produce sleep, and it caused him to jump and jerk about, and he became unconscious. The pulse was 108, and the respiration rose to 40 in the minute. The throat appeared to be dry and there was difficulty in swallowing. Later, in about two hours, another dose—$\frac{1}{30}$ gr.—was given, but even this did not procure sleep. He was, however, quieter, and the jerking movements were less. The effects of the drug gradually passed off, and then chloral and bromide were administered, with the result that a good night's rest was obtained and the patient woke up sane. The second case was also one of delirium tremens in a man. In this case the administration of a dose of $\frac{1}{60}$th gr. hypodermically was followed by dilatation of the pupils and a modification of the movements, so that they came to resemble uræmic convulsions. The speech became incoherent, the throat was evidently excessively dry, and swallowing impossible. The attempt to administer bromide and chloral was unsuccessful, and the patient finally sank and died. In the third case—a woman aged forty-five years—the administration was made with a view to induce sleep—this time in a dose of $\frac{1}{75}$ gr. It apparently produced some uncomfortable effects, such as jerking of the limbs and delirium. Dr. Sharp is inclined to think that the drug in its action differs little from atropine, and that it is neither safe nor effective as a hypnotic; but there seems to be no doubt that in certain cases, especially of maniacal excitement, the drug is of some service even in doses considerably smaller than Dr. Sharp used in his cases.

ENGLISH AND SCOTCH JUDICIAL PROCEDURE.

THE recent trial of Monson on the charge of having murdered Lieutenant Hambrough, reported in our last issue, suggests a comparison of the methods of legal procedure in criminal cases according to English and Scotch law. In Scotland there is no coroner's inquisition and no magisterial investigation as in England. When there is reason to suspect that a death has not arisen from natural causes the preliminary inquiry is conducted by the Procurator-Fiscal, or Public Prosecutor, on information supplied by the police or other persons. This inquiry is carried on secretly. Each witness is examined or "precognised" privately and separately, but the oath is not exacted unless there appear to be grounds to doubt the veracity of the informant. The evidence or "precognitions" thus obtained are submitted by the Procurator-Fiscal to the Crown Counsel, consisting of the Lord Advocate, his four Advocates-Depute, and the Solicitor-General, who takes precedence of the others. As a matter of practice one of the Advocates-Depute receives the precognitions, examines them, and decides upon issuing one of the following orders: (1) that no further inquiry is necessary; (2) that investigations are to be continued; and (3) that a prosecution shall be directed to ensue. From the secrecy in which the Procurator Fiscal's examination is carried on it is obvious that facts are more likely to be omitted or overlooked than they would be if the inquiry was made in public, as in the English coroners' and magistrates' courts. Had the death of Lieutenant Hambrough occurred in England the coroner would have held an inquisition, and in all probability circumstances would have been brought to light which would have prevented the premature interment of the remains and the subsequent exhumation.

In Scotland, when the Crown Counsel direct a prosecution, they at the same time decide upon what form the trial shall assume. According to the gravity of the precognitions the direction is: (1) for "Sheriff summarily," when the case is heard by the local judge, who in the event of conviction cannot pass sentence of more than sixty days' imprisonment; (2) for "sheriff and jury," when the extreme punishment is two years' imprisonment; and (3) for "indict," when the prisoner is arraigned before the High or Circuits Court of Justiciary. It was at the High Court of Justiciary in Edinburgh that Monson was tried by the Lord Justice Clerk and a jury.

When the Crown Counsel have decided to prosecute, a "diligence" is sent by the Clerk of Justiciary to the Crown Agent, who forwards it to a "macer" of the High Court of Justiciary authorising him to "summon, warn and charge" both the accused and the witnesses. The macer then sends a certified copy of the list of witnesses cited to the Crown Agent. Should the Procurator-Fiscal deem a post-mortem examination advisable, he issues a warrant to the medical

man concerned in the case and usually joins with him a skilled practitioner. Before the warrant is executed it has to receive higher sanction, and in consequence a petition is sent to the local judge asking permission for an official post-mortem inspection. It is customary to give certain of the precognitions to the medical man to assist him in his investigation. The warrant must be presented before legal possession of the body can be obtained. According to Scotch law an accused person is invited to give his own account of the case, and any statement he may make is appended to the indictment and is read out at the trial. This procedure is similar to the English, for when a magistrate is about to commit a prisoner he asks him whether he wishes to make any statement, but with the caution that such statement will be taken down in writing and may be used against him at his trial.

A list of the dumb witnesses, called by the French *pièces de conviction*, and known to the Scotch law as "productions," is joined to the indictment.

In Scotland, after the list of witnesses has been completed and delivered, no new ones can be added, and consequently no rebutting evidence can be called, and new developments during a trial are rare. A Scotch criminal jury consists of fifteen men, instead of twelve as in England. Upon a table in the court are two glass urns, and into these are placed slips of paper on which are written the names of the forty-five jurymen summoned on the panel. In one urn are placed the names of special jurymen and in the other the names of common jurymen. By drawings from the two urns the composition of the jury is determined.

Formerly it was not uncommon for Scotch criminal trials to be impeded by forensic arguments on the relevancy of the indictment or "libel," but the Act of 1887 gave discretionary power to the presiding judge to amend the indictment, and hence much delay is avoided. In Scotland no opening statement is made by the prosecuting counsel, but witnesses are at once called. The prisoner's counsel has the last word before the summing-up of the judge, whereas in our own courts the prosecution have the right to address the jury after the speech for the defence. In England the jury must be unanimous in their verdict; if they cannot agree they are discharged and a fresh jury is empanelled for a new trial. In Scotland a bare majority of the jury can return a valid verdict.

In England there are only two alternative verdicts left to the jury—"Guilty" and "Not guilty"—whilst the Scotch law includes a third, "Not proven." Whether a verdict of "not guilty" or "not proven" is returned, the accused cannot again be put on his trial. It is a question whether the greater latitude given to the Scotch jury is more just and equitable than our own more narrowed formulæ. It gives a wider selection, but in cases of such gravity as trials for murder we do not see that any useful purpose is served.

A verdict of "Not guilty" in this country negatives judicial guilt, but it does not necessarily remove the moral stain that may attach to the prisoner. Moreover, though placed beyond the penal boundaries of the criminal law by such verdict, a punishment is still left to the guilty by the inexorable law that binds a man's personality to his conscience. We are of opinion that if the Scotch verdict "Not proven" is to remain on the statute book, none but a unanimous jury should be allowed to return it.

At the recent Ardlamont trial, when one of the medical expert witnesses for the defence was giving his evidence, the Lord Justice Clerk remarked that the knowledge gained by the witness's experiments and observations ought to have been added to the precognitions; or, in other words, testimony whether for or against the prisoner should be placed before the court prior to the trial. In England a prisoner's counsel is not expected to foreshadow his defence, and consequently it is not rare for prosecuting counsel to exercise their ingenuity in their opening speeches with the purpose of forecasting the line of defence.

On the whole, it will be gathered that the Scotch criminal procedure is somewhat more favourable to the prisoner than it is with us. No serious miscarriage of justice, however, need be apprehended, since the impartial summing-up of the judge should suffice to neutralise extravagant propositions put forward on the prisoner's behalf.

THE LANCET
Special Sanitary Commission
ON
PUBLIC HEALTH MEASURES AT SOUTHAMPTON.

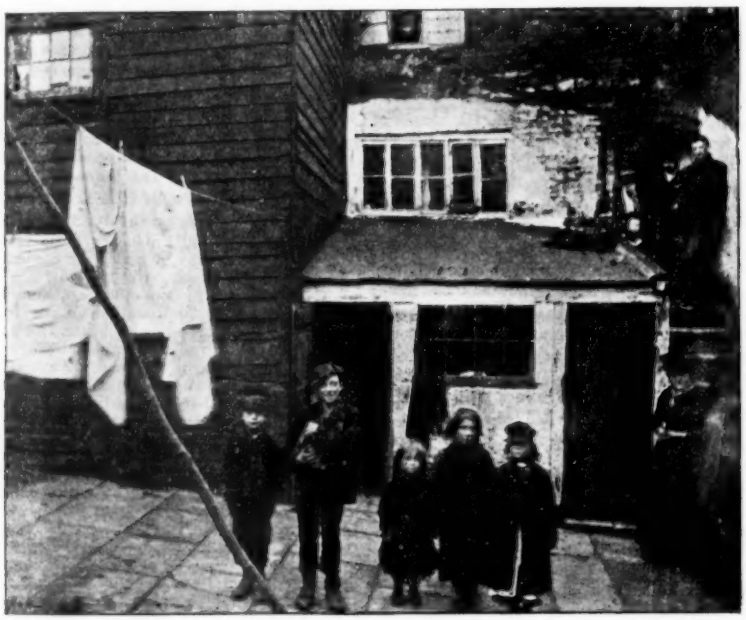
PART I.

THE sanitary condition of Southampton is a subject of more than usual interest. It is not merely a matter of local concern, but of national and international importance. Southampton has long been the port for the West India mails and for South America. It has quite recently become a port for the United States mail. If the distance from Liverpool to New York is shorter, the journey from London to New York, *viâ* Southampton, takes six or seven hours less than the Liverpool route; and the argument relied on at Southampton rests on the belief that London is the real point of destination and of departure for travellers from or to New York. If, however, France or Paris is the object of the journey, the traveller, arriving at Southampton from New York, can start the same evening by the steamers that run daily to Havre; in consequence, therefore, of the transfer from Liverpool to Southampton of the former Inman, now called the American, line of Transatlantic steamers, a very great increase of traffic has arisen. There are also the North German Lloyd and the Hamburg American steamers, which call in at Southampton on their way out and home to America. Then there are the Union Steamship Company and the Castle Line Mail packets for the coasts of Africa, the Nederland Company's vessels for Batavia, to say nothing of the large daily traffic with the Channel Islands. In order to meet this great and increasing trade new and enormous docks are in course of construction. From a sanitary point of view this means that the risk of importing disease from abroad is increasing with the increase of traffic, and that the danger of generating disease at home is likewise increasing, because this new trade and these new works have filled the town to overflowing. It therefore becomes imperative to inquire whether Southampton is in a fit condition to stand the strain. As already described,[1] in 1892 the town distinguished itself by the energy displayed in medically inspecting all vessels coming from cholera-infected ports. So far as the importation of disease is concerned we may at once say that the measures taken by the port sanitary authority are as energetic and effective as can be desired; indeed the medical inspection is so rigorous that should cholera break out again it would be necessary to augment the medical staff at Southampton. There is no law to prevent a ship steaming straight into dock unless she is challenged by the medical officer. On the eastern side of the Southampton Water there is no available signalling and telegraph station, so that the port sanitary authority cannot be warned when a ship is approaching. By studying the *Shipping Gazette*, and by the aid of advice from the ship's agent, a guess at the time when a ship is likely to arrive may be made; but this is at best a hazardous guess, and often results in keeping the medical officer out in his launch for many hours, and this, too, in all weathers and hours of the day or night. Such work demands the help of assistants, and if these are provided we may look with confidence upon the situation, feeling certain that everything that within reason is possible

[1] THE LANCET, Feb. 4th, 1893.

and legal will be done to prevent the importation through Southampton of cholera or other contagious disease.

It is unfortunately impossible to speak with the same assurance regarding the danger of breeding or spreading disease within the town of Southampton itself. The sanitary condition of the town is far from satisfactory. Nevertheless, in one most important respect Southampton stands in the very first rank among the towns of England; it has an unimpeachable water-supply. Formerly this was taken from the river Itching at a point close to the town, and where the water was contaminated by vegetable matter and animal excreta washed off the adjacent lands; now, however, the corporation have established waterworks high up on the Downs at Otterbourne. Mr. W. Matthews, the engineer, who designed these works and successfully selected the spot for the borings, very courteously showed us over the establishment and supplied us with every information. The wells were sunk below the chalk at Otterbourne, which is an elevated and isolated spot on the downs, half a mile away from, and at a higher level than, the nearest village. There are but four or five cottages in sight, and these are inhabited only by attendants on the works. Care has been taken to provide earth closets for these cottages. Powerful engines raise more than two million gallons of water

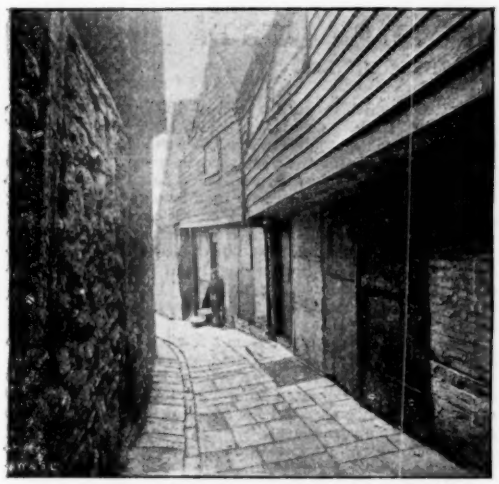


per day and, it has been calculated, supply every inhabitant of Southampton with thirty gallons of water per day for £1 per head to cover the original cost of the works. These cost, in all, £66,000, and some £10,000 more are now about to be spent in order to sink another well and to purchase a spare pumping-engine. By this means provision will be made for a probable large increase of the population of Southampton.

The water coming from the chalk is naturally very pure, but also very hard—namely, about eighteen degrees of hardness. The corporation has, therefore, established softening works according to the Clark process and the Atkin patent. The Otterbourne Works occupy thirteen acres of land. Here a chalk pit has been dug out and a kiln provided, so that the corporation makes its own lime; the purity of the lime is thus secured, and the softening process is rendered reliable. Considerable economy is likewise effected, as it would be more expensive to buy the lime. Within the works there are mixing drums for slacking the lime; then the "cream of lime" goes into a tank, from whence it is pumped into mixing cylinders, where the saturated solution of lime-water is mixed with ordinary water and then poured into tanks. As the water comes up from the wells into these tanks it meets the lime solution and is well mixed with it by having to pass over a succession of weirs. Finally it reaches the Atkin filters. These are hoops of cotton twill cloth held together in a tank by a central rod, which is hollowed out in the middle. As the water passes through the cotton twill it reaches the channel formed in this rod, which constitutes a connecting shaft in the centre of the cotton-covered wheels. The water deposits on the outside of the twill the lime it contains. An ingenious system of water-jets enables the attendants to occasionally wash off the lime deposited on the cotton cloth and thus clean the filter. The result of this operation is that the hardness of the water is reduced from eighteen to eight or nine degrees. As the London New River water is about fourteen degrees of hardness, it may be said that the Southampton water, from being exceptionally hard, is rendered exceptionally soft. These works are kept in admirable order; the machinery is clean and bright, and the scheme, as conceived and carried out, reflects great credit on the Southampton corporation and its waterworks engineer. The cost for softening the water only amounts to one farthing per 1000 gallons. There are engineering works on the spot, and there is a dynamo to supply electric light; the waterworks are thus self-providing, and do not depend on the outside for anything.

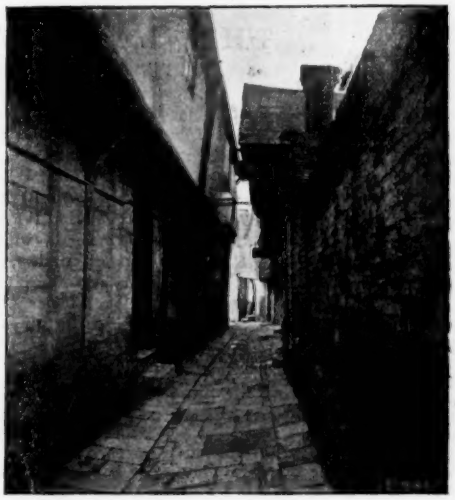
The corporation make their own lime and repair their own engines, and the results are a pure, reliable water-supply and a profitable source of income to the municipality. Otterbourne is eight miles inland from Southampton. At a mile and a half from the borings the water is delivered in 24-inch pumping mains into a reservoir situated 160 feet above the pumping station. This reservoir is well built and carefully covered over. Thence the water flows in closed pipes and by gravitation to other reservoirs situated on Southampton Common. These are 200 feet above the sea level, so that the whole town can be supplied by water under pressure direct from the mains. Unfortunately—and this is one defect of the system—the reservoirs on the Southampton Common are not covered over. They are near the road, and dust from the latter could easily blow on to the surface. Tramps are constantly passing. They rest, and sometimes sleep, on the common, close to the uncovered water-supply. Should anyone passing be taken ill, the dejecta, dried and mingling with dust, might be blown into the water. Moreover, as the water is derived from chalk it is somewhat rich in nitrates, with the result that when exposed to the sun and the light vegetation soon appears. Undoubtedly these reservoirs should at once be covered over. This necessity is admitted

on all sides, but to do so efficiently would cost about £6000, and there are many calls on the public purse at this moment. Therefore, for the time being, the corporation has contented itself with building a palisade round the reservoirs. This has cost about £1000, and keeps all leaves and some of the dust out of the water. In extenuation for this partial measure it is urged that the town will, for instance, be put to a heavy expense in providing a hospital cholera ship; while there is on land but very unsuitable accommodation for contagious diseases. The low-lying portion of the town is most unsatisfactorily drained. There is no public abattoir. The private slaughterhouses are a source of constant danger and nuisance. There are no model common lodging-houses, and the common lodging-houses that exist are of the worst type. Finally, there are a number of slums in Southampton of an exceptionally wretched character. It is quite apparent that the town has for long been lethargic in respect to sanitation; it has had, however, a rude awakening, and considerable improvements have been effected, but only of late years. These are due in a great measure to the energetic medical officer of health, Mr. A. W. Harris, to the fact that he has been well supported by the sanitary committee of the town council, and to his having been appointed for life, so that he is independent of the opposition which sanitary measures always occasion among those who fail to understand their utility or who begrudge the expense. Mr. Harris has a very arduous task before him, for the slums are so numerous and ill-



conditioned that it will be a formidable task to sweep them away. It seems as if any number of persons had built houses in their back gardens or yards; thus there are a great many houses that stand back to back and have consequently no through ventilation. To make matters worse, the narrow courts in which these houses are situated are often blocked by buildings at the back, thus preventing a free current of air. The sun fails to penetrate into such places unless it be just when it has reached its meridian. Some of the houses are very damp, and, as wooden instead of metallic waterspouts are often employed, this adds greatly to the moisture of the walls. Many of these houses have neither closets nor water-supply within doors; a common closet and a common tap are situated in the court, and the occupants of several houses are obliged to go to the one supply, the result being that they do not employ sufficient water for their domestic purposes and foul the interior of their houses rather than go, at night or in bad weather, to the public closet that may be some distance down the court. Again, numerous dwellings are so old, or, if new, so badly built, that they are falling to pieces. The roofs are out of line, the tiles in many places are constantly dropping off, and the rain pours in. The walls crack, the window-frames lose their hold, and planks in front of the houses decay and fall, disclosing behind them lamentable fragments of lath and plaster which serve the place of walls.

How an epidemic can spread in such slums has been shown by recent events. In December, 1892, a sailor from South America landed at Southampton. He was in perfect health, but ten days later he fell ill with small-pox. He had, it was then ascertained, helped to land some small-pox patients at Lisbon—that is, some three or four days before reaching Southampton. As there were seven cases of scarlet fever at the fever hospital, this sailor could not be taken there. Attempts were made to obtain a house for small-pox cases, but this was not practicable. The authorities choosing the lesser of two evils, the scarlet fever patients, being convalescent, were removed to their own homes, the fever hospital was disinfected, and the small-pox patient was brought in. By that time seven or eight other cases had occurred in the same terrace where this sailor lived. This terrace contains many high-class houses and is situated in a fine open position, but on very low-lying ground. When the means of isolation had been satisfactorily organised this commencement of an epidemic ceased and did not spread to any other street; a little later, however, tramps coming from infected towns brought small-pox once again to Southampton. A woman who had slept in the workhouse of a neighbouring union arrived carrying a child in her arms which was covered with a fully developed eruption. She remained begging all day in the streets and at night went to a wretched common lodging-house built with wooden walls. Here the case was discovered and the child was removed to the hospital; but in spite of the



precautions taken several other cases occurred among those who had been in the common lodging-house at the time. All the linen and bedding of this place was burnt and the owner was compensated. Those persons lodging there who had but one suit of clothes were put to bed so that their clothes might be disinfected. Some days later the medical officer of health found a child sitting in the middle of a very small room playing with seven other children, though it was covered with small-pox pustules. The child's mother was away, and it was necessary to search all the neighbouring public-houses before she could be found. The court where this occurred is a wretchedly poor slum and was then inhabited by sixty persons. They were all offered revaccination gratuitously. In spite of the pressure that could be brought to bear, a few of them refused to be vaccinated, and six cases of small-pox occurred in this court. It is most instructive and important to note that none of these six cases had been revaccinated. All who had followed the medical officer's advice in this respect escaped the infection. Further, two policemen who came into contact with a case of small-pox in this court were advised to be revaccinated. One of them refused, and exactly fourteen days afterwards he fell ill with confluent small-pox. Altogether there were 12 cases of small-pox at Southampton and 1 in the suburbs in December, 1892; and 125 cases in the town and 28 in the

suburbs during the first portion of the year 1893. One patient died before he could be removed; the remaining 152 small-pox cases were all isolated, first in the fever hospital and then in a ship hired for the purpose.

In respect to compulsory isolation Southampton has set an example that commends itself to all sanitary authorities. Many of the patients absolutely refused to be removed. The medical officer of health did not follow the usual course of applying for a magistrate's order; it would have been necessary to prove that the patient could not isolate himself in his own home. The case might not have been established, and the order not obtained. At all events, two or three days would have been lost, and time thus given for the infection to spread. Mr. Harris resorted to an altogether different method. He very carefully explained to the persons concerned that two sanitary inspectors, in uniform, would be placed at the door of the house to keep watch both day and night. If anyone was admitted into the house action would be taken under the Public Health Act Amendment Act against the occupier "for exposing an infected article"—namely, the house "or person," that is, the patient and his attendants. On the other hand, if the inhabitants wished to send anyone out for provisions &c., and if it could be proved that that person had been near the patient, action would lie for exposing themselves and their clothing while infected with small-pox to the common danger of the public. A few people thought that these were but empty threats, and would not consent to transfer the patient to the hospital; but when they saw the two inspectors in full uniform take up their stand at the door of their house they soon became alarmed and quickly relented. They then, of their own free will, sent a request for the patient to be removed and for the house to be disinfected, so that they might once more have free intercourse with the outer world. It was only by such energetic measures that worse mischief was prevented and the epidemic stamped out in spite of the very propitious soil afforded by the slums of Southampton. Further details which we shall be able to give concerning the insanitary character of these localities will confirm this opinion.

In the meanwhile, the accompanying photographs, which we have taken for this purpose, will help to explain our meaning. The one represents a common lodging-house. It will be noted that its wooden walls are giving way; the planks are rotten and broken in many places, letting through the wind and the wet. The smallness of the windows show how difficult ventilation must be, and the people standing round give some idea of the poor class of population that frequents this quarter. Then we have taken two views of Blue Anchor-lane, a spot well beloved by the artists who visit Southampton, on account of its quaint mediæval houses, its pointed gables, and floors reaching right across the very narrow street. But it will be seen how these in part wooden houses are falling to pieces, and, though they might well be preserved as show places, that they are no longer suitable for habitation.

(To be continued.)

THE LANCET RELIEF FUND.

FIFTH ANNUAL REPORT OF THE ALMONERS.

THE LANCET Relief Fund, which has for its Almoners the President of the Royal College of Physicians (Dr. J. RUSSELL REYNOLDS, F.R.S.), the President of the Royal College of Surgeons (Mr. JOHN WHITAKER HULKE, F.R.C.S., F.R.S.), the President of the General Medical Council (Sir RICHARD QUAIN, Bart., M.D., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S., and Mr. THOMAS WAKLEY, jun., L.R.C.P.Lond., with Sir HENRY PITMAN, M.D., F.R.C.P., as Honorary Auditor, came into operation on the 1st of February, 1889.

In presenting the fifth annual report, the Almoners think it well again to direct attention to the objects for which the Fund was established.

The Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, and is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to the widows or orphans of members of the profession in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

When the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established; and as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. Attention was called to this fact in THE LANCET of Feb. 16th, 1889, in the following words:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress, the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established; which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession who, in consequence of the supervention of some unexpected exigency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief," and who, it may once more be pointed out, are likely to be permanently benefited thereby.

The balance in hand at the end of 1892 amounted to the sum of £171 14*s*. On Jan. 7th, 1893, the Proprietors of THE LANCET placed to the credit of the Fund the sum of £300. During the course of the year repayments of loans to the amount of £32 10*s*. have been made. The sum of £371 has been granted in relief either by way of loan or of gift, leaving a balance of £133 4*s*., as per bank pass-book.

There have been considered altogether during the twelve months ending Dec. 31st, 1893, 48 applications for relief (the number the previous year having been 34). In 28 cases assistance was afforded, either as a loan or as a gift, according to the request of the applicant, the amounts of the grants ranging this year from £5 to £30.

The following are extracts from a few letters received from some of the recipients of the Fund:—

CASE 136.—"I beg to remit £—— as the final instalment of the loan kindly granted from THE LANCET Relief Fund with my very sincere thanks for so great a favour at a time of temporary embarrassment."

CASE 179.—"Allow me, through you (the Secretary), to thank the Almoners for so kindly assisting me in my unexpected trouble. I believe Dr. —— has secured a situation for me which your timely gift will enable me to take advantage of."

CASE 184.—"I acknowledge with most sincere thanks your letter with cheque for £——; it is indeed a great help to me, and through the kindness of your Almoners I hope to be able to start a little home for my fatherless little ones." From a friend: "I am very much obliged to you for your note respecting the grant made to Mrs. ——, and I beg to offer my sincere thanks to the Almoners of THE LANCET Relief Fund for so kindly considering her application. Their gift, together with the sum of £—— which I have collected, will enable her to go to——, and as I am at present so near —— I shall be able to see her settled there."

CASE 186.—"I beg to express through you my most sincere thanks for the loan granted by the Almoners of THE LANCET Relief Fund to me. It is of great value, coming as it does at such a time of need, &c."

CASE 187.—"I beg to acknowledge with many thanks the kind gift of £—— cheque, which I have duly received, which will be of great service to tide me over present difficulties."

CASE 189.—"Your letter, with its most welcome enclosure, reached me last evening. Please convey my best thanks to the Almoners for their kind gift. I trust that if my life is spared awhile, with my renewed health, they will find that their bounty has not been bestowed on one who is unworthy of it."

CASE 191.—"I desire to express my sincere thanks to the Almoners for the favourable consideration given to my

application, and shall always remember with grateful appreciation the kindness shown to me at a time of special need."

CASE 194.—"Would you kindly convey to the Almoners of the Fund my best thanks for the kindness I have received at their hands? I hope I shall some day be able to show in a practical way how keenly I feel the kindness shown to me by the Almoners of the Fund."

CASE 198.—"My husband wishes me to thank you very sincerely for the cheque received this morning, and will you be kind enough to convey his most grateful thanks to the Almoners for their much needed gift of £——, which with —— pays our quarter's rent? It is indeed a great help. We still have many pecuniary difficulties to contend with, but it is a comfort to have one burden removed."

The Almoners desire to express their sincere regret on the occasion of the death of Sir ANDREW CLARK, and to record their profound gratitude for the inestimable services which he rendered to the Fund during the period of five years by his zealous attention to all its requirements.

The present Almoners desire to record their thanks to Mr. BRYANT for his invaluable services as an Almoner during the period of his Presidency, and to Sir HENRY PITMAN for kindly undertaking the duties of Hon. Auditor.

(Signed)

J. RUSSELL REYNOLDS. THOMAS BRYANT.
J. W. HULKE. THOMAS WAKLEY.
RICHARD QUAIN, M.D. THOMAS WAKLEY, JUN.

Statement of Accounts for the Year ending Dec. 31st, 1893.

DR.

	£	s.	d.
To Balance at Bank, Jan. 1st, 1893	171	14	0
,, Proprietors of THE LANCET	300	0	0
,, Repayment of Loans :—			
Case No. 129 ... ... £2 10 0			
,, ... 5 0 0			
,, 133 ... ... 15 0 0			
,, 136 ... ... 2 10 0			
,, ,, ... 2 10 0			
,, ,, ... 2 10 0			
,, ,, ... 2 10 0			
	32	10	0
,, Bank charges	0	4	7
	£504	8	7

CR.

	£	s.	d.	£	s.	d.
By Loans :—						
Case No. 168	10	0	0			
,, 176	25	0	0			
,, 185	20	0	0			
,, 186	15	0	0			
,, 190	25	0	0			
,, 191	30	0	0			
,, 194	6	0	0			
,, 195	20	0	0			
,, 197	20	0	0			
				171	0	0
By Gifts :—						
Case No. 156	10	0	0			
,, 159	5	0	0			
,, 161	5	0	0			
,, 162	25	0	0			
,, 163	10	0	0			
,, 166	10	0	0			
,, 167	20	0	0			
,, 169	10	0	0			
,, 170	15	0	0			
,, 177	10	0	0			
,, 179	15	0	0			
,, 180	15	0	0			
,, 183	10	0	0			
,, 184	5	0	0			
,, 187	10	0	0			
,, 189	5	0	0			
,, 193	5	0	0			
,, 198	5	0	0			
,, 199	10	0	0			
				200	0	0
By Cheque Book (4*s.* 2*d.*) and Commission on Country Cheque				0	4	7
,, Balance at Bank Dec. 31st, 1893				133	4	0
				£504	8	7

I find by the Bankers' Book that the actual balance on Jan. 1st, 1893, to the credit of the Fund was £171 14*s.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 7th, 1893.

The balance at the Bankers' at the present date is the sum of £133 4*s.* I have also checked the receipts for disbursements and find the above account strictly accurate.

December 29th, 1893. HENRY A. PITMAN, Hon. Auditor.

THE PRESIDENT OF THE ELEVENTH INTERNATIONAL CONGRESS OF MEDICINE AND SURGERY.

"A ROMAN first and an Italian afterwards," Dr. Guido Baccelli, besides his eminence as a consultant and teacher, has peculiar claims to preside over the next International Congress of Medicine and Surgery. Never yet has that mighty gathering assembled in the Eternal City. On the ten previous occasions of its meeting some capital of Northern or North-western Europe was generally chosen to give it hospitality; but when at Berlin in August, 1890, its eleventh rendezvous had to be fixed it was felt that Rome's turn had arrived. Of that feeling the fitting spokesman was Dr. Baccelli, who, speaking as her son, her communal councillor, her parliamentary representative, and her chief rehabilitator, carried, in an appropriate Latin outburst, the whole vast assemblage with him and, enthusiastically seconded by Dr. Virchow, succeeded in transferring the next triennial parliament of the healing art to the city of the Cæsars. By universal, if unvoiced, consent he was indicated as the proper president of the Congress—an indication formally ratified by the unanimous vote of his professional compatriots. They, indeed, were too cognisant of his services and of his noble, if but partially achieved, aspirations to doubt for a moment the propriety of their choice. He was too closely identified with the "Instauratio Magna" of Italian medicine to admit of rival or competitor. And so it is to-day our pleasant task, in view of the mighty gathering now not three months distant to sketch, if not for the first time to set forth, the main incidents of its President's career—incidents, naturally, more familiar to the Latin than they have hitherto been to the Teutonic world.

Guido Baccelli comes of a family as distinctly Florentine as its name is characteristically Tuscan. It achieved prominence during the Republican epoch, after which it migrated to Rome, where again it came honourably to the front, as may be seen on the marble memorial tablets in the Capitol. Medicine as a calling was hereditary in it, and when Guido

saw the light in Rome on Nov. 25th, 1832, it was the wish of his father Antonio—himself a famous surgeon—that the boy should follow in the footsteps of his father and grandfather alike and devote himself to the healing art. In his sixteenth year we find him a student in literature and philosophy at the Collegio Ghislieri of Pavia, keenly interested in the events that harbingered the upheaval of 1843 and embodying his juvenile Liberalism in verses, two of which are still quoted as prophetic :—

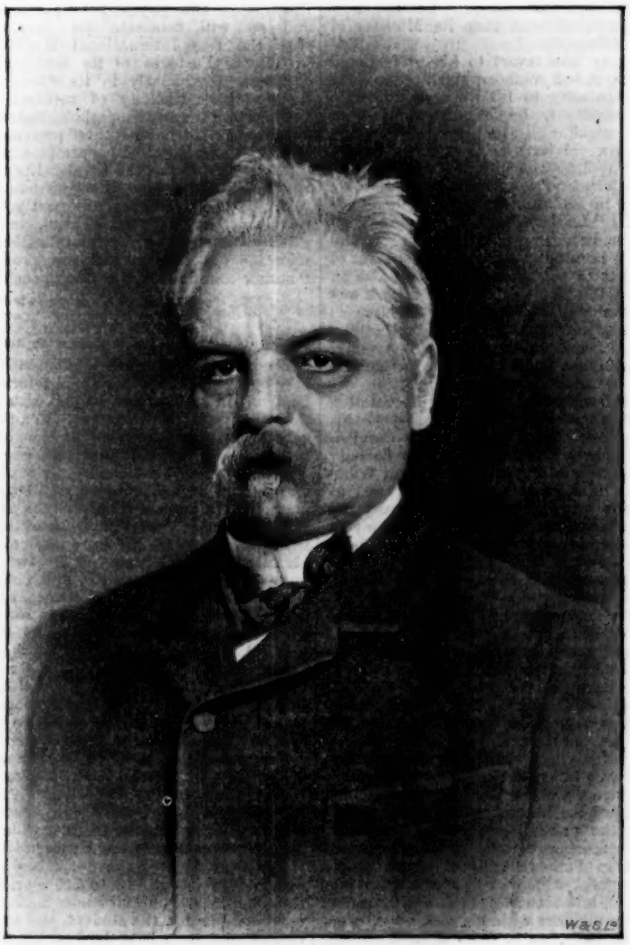
"Dopo che sarà morto il gran Pio Nono,
Più nessun Papa siederà sul trono."

(After the great Pio Nono's death no other Pope will fill the Temporal throne.)

When the revolution broke out the boy Guido was enrolled in the ranks of the patriots, but his father, backed by his relatives, recalled him to Rome and kept him under close surveillance. In the spring of the following year Rome herself, having reared the Republic on the ruins of Pio Nono's government, was besieged in the Papal interest by the French, and again young Baccelli joined the revolutionary cause. He had barely confronted the enemy under the walls, however, when his father again interfered and exiled him from Rome. On the restoration of peace and the provisional reinstatement of the Pope he once more returned, and this time at least dedicated himself wholly to study. Matriculating at the Sapienza in the medical classes, he distinguished himself year by year in every subject, coming out first in all the examinations. In 1852 he graduated as Doctor in Medicine, in 1853 as Doctor in Surgery, in 1854 he won the gold medal for clinical proficiency over all competitors, and in 1855, in open competition, he gained the post of assistant physician in the great hospital of the Santo Spirito. In 1856 once more in open competition, and against formidable rivals, he was appointed to the chair of Medical Jurisprudence in the Sapienza. Concurrently with this professorship he gave lectures on botany and general pathology, till in 1859 he had to resign his chair from his having identified himself with the Liberal cause. In 1863 his claims to the post of lecturer on clinical medicine could not be ignored, and in this connexion he threw himself with energy into pathological anatomy, henceforth a favourite study of his. The subject was not represented in the professoriate of the Sapienza, and he at once proceeded to repair this defect. In spite of the opposition of the Papal Government and its prejudices against the "sectio cadaveris," he finally gained his point. A chair of Pathological Anatomy was founded, and by common consent he was chosen as its first occupant. In this capacity he strove earnestly to bring the Roman medical curriculum up to the level of the Transalpine schools and certainly succeeded in effecting a salutary change on the old defective system. All this time he was steadily and surely consolidating his claims as a practising physician and by 1870 had become the most largely employed consultant in the city and province. In 1870, by which time his boyish

Professor Baccelli at the age of forty.

prediction had been verified and the Temporal Power had fallen, he was appointed professor of clinical medicine in the Roman University (as the Sapienza is henceforth called), a post he has occupied ever since with yearly increasing popularity. In 1875 a fresh sphere of usefulness was opened up to him, and by an overwhelming majority he was elected by the third constituency (*collegio*) of Rome to represent it in Parliament. For this seat he has always been re-elected as an adherent of the Left or Advanced Liberal party, and from the first became prominent as a speaker and debater. As fluent and pictorial in oratory as Emile Castelar, he yet outshines his Spanish counterpart by the clearness of his logic and the intellectual light he owes to his scientific training. By two successive Ministries of the Left he was offered the portfolio of Public Instruction, but did not see his way to accept it till 1881, when, at the instance of Benedetto Cairoli, then the Premier, he undertook the onerous charge. Next year the Cabinet had to be reconstituted under Agostino Depretis, and Baccelli was reconfirmed in his post. His tenure of office soon fructified in salutary reforms, while the lines of others of even greater magnitude and significance were laid. He promoted the education of women by special facilities *ad hoc* in Rome and Florence; he instituted a Council of the Higher Instruction, a body of which one-half is appointed by the votes of the Universities; and in his own sphere of study he reconstructed, on an enlightened and definitive basis, the University cliniques of Bologna, Rome, and Naples. He strove hard to rehabilitate secondary education (*studi secondari*) and created the "licenza d'onore" (honorary licence) as an incentive to ambitious youth; but when he set himself to the reform of the higher culture and proposed the autonomy of the Universities he raised a storm of resistance, against which he had the greatest difficulty in making head. He carried his Bill, however, in the Chamber of Deputies—only to see it rejected by the Senate. Mortified by this failure, he resigned his portfolio in 1884, not, however, before leaving his mark on many a subsection of his department. Among these, archæology received a notable impetus. He it was who isolated the Pantheon and caused that incomparable relic of Republican Rome to stand out in pristine majesty. He it was who removed the unsightly viaduct that used to span the Forum and veil half the monuments of the Tabularium or Record Office of the ancient city. He it was who brought to light the Rostra and gave Lanciani the commission which ended in the restoration to light of the House of the Vestal Virgins. Other projects were discontinued by his retirement from office, especially that noble design of a "Passeggiata Storica" (historical promenade)—the consecration, that is, to antique Rome of an area some six miles in extent, the interest of which would culminate in the space between the Forum and the Palatine, the whole being



Professor Baccelli at the age of sixty-two.

surrounded by *viali alberati* (boulevards set with trees)—but this grand idea will have long to wait for fulfilment, the financial straits of Italy limiting her extraordinary outlays to her means of defence by land and sea and her networks of railway communication between the inland and the littoral. Withdrawal from office, however, did not mean in Baccelli's case abandonment of legislative work. When, after the death of Depretis in 1888, the helm of the State fell to Crispi, he threw in his lot with the Sicilian statesman and, but for parliamentary exigencies, would have returned to his post of Minister of Education. But he had to wait for this; and after ably discharging subordinate duties like that of Vice-President of the Chamber of Deputies, to say nothing of the posts he has held till now of Communal Councillor and President of the Superior Board of Health of the Kingdom of Italy, the return of Crispi to power brought the much-desired opportunity, and the new Cabinet now acknowledges no stronger constituent than its Minister of Public Instruction, Guido Baccelli.

From his public we may now revert to his professional life. Medicine in its widest and minutest significance owes much to him. Supplementarily to his work as academic teacher and private consultant, he has found time to enrich hygienic, pathological, and therapeutic literature with precious contributions. Malaria, as it haunts the Agro Romano and finds its way into the city itself, he has continuously studied in its etiology no less than as to its morbific sequelæ; but pathology in its strictest sense claimed his first thought and efforts. "La Patologia del Cuore e dell' Aorta," published in Rome, in four volumes, between 1863 and 1867, shows him to have been not only a diligent student of such master-works as that of the Irish Stokes, but also an original investigator and thinker. This elaborate work was followed by two remarkable papers in the "Archivio di Medicina e Chirurgia ed Igiene," entitled "Lezioni Cliniche sulla Malaria: La Perniciosità" (August and September, 1869). After this came his "La Subcontinua Tifoidea" (Rome, 1876), in which he introduces—for the first time, we believe—the epithet "subcontinuous" as a differentiating term to diagnosis. To this succeeded in the same year his famous Latin monograph, "De Primitivo Splenis Carcinomate" (Rome, 1876), which he dedicates in noble Latinity to Professor Eduard Rindfleisch of the University of Würzburg, as associated with him in common studies, and as personally illustrating the qualities by which Germany has so long led the van in pathological research. The same year witnessed his next publications, "Di un Nuovo Metodo di Cura per gli Aneurismi Aortici" and "Di un Nuovo Segno dei Tumori Ovarici in genere ed in specie del Cistovario." Finally, the year 1877 witnessed the completion of his published researches, "Sulla Trasmissioni dei Suoni attraverso i Liquidi Endoplaurici di Differente Natura"—a work quite in the spirit of Hippocrates, and supplementing the Hippocratic use of succussion by ingenious clinical devices—as, in the words of an appreciative German critic, the "lispelnde Stimme" during auscultation. Besides these publications, he has contributed largely to what might be called the fugitive literature of the profession and has delivered innumerable addresses, introductory and valedictory, before the medical societies of which he is either actual or honorary member. For many years president of the Accademia Medica di Roma, he shows the keenest interest in the corporate organisation of the profession, national and international. He took a prominent part in the first International Medical Congress held in Paris in 1867; in 1869, at the next meeting of the Congress, which assembled at Florence, he acted as vice-president, and both at general and sectional sittings so electrified his auditors with his eloquence, often couched in vigorous Latinity, as to draw from Professor Bouillaud, its president, the compliment: "Vous avez été aujourd'hui le Démosthène et le Cicéron de la science." In Italy herself he has been the prime mover in the founding of medical societies, urban and provincial, as well as in organising Italian congresses. Of the latter the first was held in Rome in 1871 under his presidency, and at regular intervals it has ever since made its seat in one or other of the great University towns. On these occasions he has generally been voted to the presidential chair, in which, with characteristic tact and *bonhomie*, he has never failed to tighten the cords of friendship that ought to bind the capital with the provinces. Nor is it only in the corporate life of the profession that his efficacy is conspicuous. Foreseeing the vast increase in the population of Rome since she became the seat of government, he early designed a grand and completely appointed clinical school within its circumference, to which the students from other parts of Italy should be attracted, and by means of which the harmonious working of the profession throughout the peninsula should be promoted and secured. This is the "Policlinico"—the vast edifice of laboratories, wards and departmental offices which, with its commodious airing-grounds, has been slowly advancing to completion, till it is now so far a *fait accompli* as to entertain the Eleventh International Congress of Medicine and Surgery at Easter next. From time to time THE LANCET has set forth the difficulties, mainly arising from Italy's frequent changes of government and her recurrent attacks of impecuniosity, by which the works of the "Policlinico" have been retarded, but now that it is so far on its way, and that it has the Minister of Public Instruction himself for its direct patron and superintendent, it is illustrating the physical law, "motus in fine velocior," and so will celebrate its opening contemporaneously with the first International Medical Congress ever held in Rome. Features of its architecture will then be recognised, particularly in its decorative details, as illustrating the catholicity of medical science; and, while the façade of the medico-pathological section will appropriately be adorned with the sculptured presence of the great Morgagni, its pathologico-surgical counterpart will be made artistically attractive by that of the English Lister. All throughout the vast building the signs of suggestions and innovations drawn from non-Italian sources will gratify the appreciative visitor from northern, western, central, and eastern Europe, the whole combining to commemorate the broad sympathies, the scientific enthusiasm, and the professional loyalty of its "author and finisher," Guido Baccelli.

Dum Tibris Etruscum in mare effluat
Flavente lapsu, stet "Polyclinicum"
Fulgens, novaturum salutem
Italiæ dominæque Romæ.

The need for such an institution in Italy can be appreciated only by a life-long educational reformer, who is himself an Italian. In an interview he had with an old pupil and friend the other day Dr. Baccelli dwelt on the uphill labour he had entered upon in the rehabilitation of Italian education in general and Italian medical education in particular. "Torniamo alle antiche tradizioni," he said; let Italy revive the academic autonomy and the free instruction that made her the mother of universities at the Renaissance. Let her have for her professional classes the "examen rigorosum" in its twofold form—the examination for graduation and the examination by the State. "The two," added Baccelli, "are quite distinct as to purport and character. The first gives the *jus docendi*; the second concedes the *exerceat*. To teach, grant full liberty; but, when you ask permission to practise, then the State intervenes and guarantees to the public a good medical man, a good lawyer, a good engineer." The State examination committee shall be a migratory one from university to university. There it will examine, the examiners being composed of competent teachers and one or more professional men of approved eminence. The student will thus have to acquit himself before men whom he does not know, and on whose indulgence he will be unable to rely. The professions will be thinned by this process, but the rest will breathe more freely and be better remunerated. "We have too many engineers, advocates, medical men," pursued his Excellency the Minister of Education. "Do you know," he asked, "that in Italy the entire university course, including the consignment of the doctor's diploma, costs but a few hundred lire (from £12 to £16 sterling); while in Germany the same cannot be had under 3000 marks (£120)? That is good neither for the student, the teacher, nor the public." Competition must be revived among the Italian universities—not, however, in the direction of under-selling each other. It was competition that made Italy's mediæval universities, the nursing mothers they became—that made Bologna, Pisa Padua, the resort of the civilised world. Each of these was a "universitas" in the proper sense, signifying not a "riunione di inseynamenti" (a combination of subjects lectured upon), but "una corporazione di tutti coloro che alla scienza s'accostano" (a corporation of all those who fraternise for the promotion of science). As such the University should have its autonomy perfectly free, as a teaching body, from State interference. Not by suppressing arbitrarily the excessive number of universities that keep down the standard of learning in Italy, but by giving the really viable and vigorous among them a free hand, will the natural law of selection and survival of the fittest assert

itself and work out the academic salvation of Italy. Into the provisions of the great enactment by which he counted on achieving this desirable consummation Dr. Baccelli did not enter with his interlocutor, but concluded by expressing his resolve to persevere until his retirement from public life in the noble words of a favourite poet of his :—

"Non omnis in arvis
Æmathiis cecidi, nec sic mea fata premuntur
Ut nequeam relevare caput."

COMPLETION OF THE CENSUS REPORT.

THE publication, as we go to press, of Vol. IV., and of the copious Index to the Population Tables, completes the Detailed Report on the Census of England and Wales in 1891. Vols. I. and II., containing the detailed results of the Census in the various subdivisions of England and Wales, were issued in May and June last; and Vol. III., dealing with Ages, Condition as to Marriage, Birthplaces, Occupations, and Physical Infirmities, was published in August; while Vol. IV., which has just been issued, contains the General Report on the results of the Census, with summary tables, in which these results are compared with those obtained at previous Censuses in England and Wales. The Index, which extends to more than 200 double-columned pages, affords a complete Gazetteer and Census Compendium showing the enumerated population in 1891 of each civil and ecclesiastical parish, and of each other recognised territorial subdivision of the country.

Nearly three years after the taking of the Census it will come as a surprise to many that the Census Report is only now complete. To those who have had no opportunity to realise the amount of labour involved in successively dealing with a complex variety of facts and conditions appertaining to 30,000,000 people the delay in the completion of the Census Report may well suggest a repetition of the frequent charge of supineness on the part of Government departments. Those who are well acquainted with the nature of the contents and the elaborate character of the Tables, which fill more than 2500 pages of the Census Report, and especially those who remember that the Preliminary Census Report was issued three months after the Census day, will not be disposed to make such a charge, although it is impossible to lose sight of the fact that the value of Census information is in inverse ratio to the length of time devoted to its preparation. It may therefore be opportune to refer briefly to one or two of the obvious causes which appear to stand in the way of a more rapid preparation and publication of the detailed Census Report. In the first place, there is no continuity in the Census arrangements. Hitherto, since the beginning of this century, a Census of varying and increasing detail has been taken in England and Wales every ten years. A new Census Act has, however, to be passed, a Census officer has to be provided, and a Census staff has to be created on each occasion, which is dispersed as soon as the Census Report is published. It follows as a matter of course that, as no Census staff exists in inter-censal periods, and as the precise nature of the Census inquiry cannot be known until the Census Act is passed (which is seldom the case until within a few months of the day fixed for the enumeration), none of that careful preparation for the Census which would so materially facilitate the tabulation of the results is possible. The Census staff, moreover, has hitherto consisted almost entirely of untrained clerks, who naturally feel but a limited interest in their temporary occupation. It is pointed out in the opening of the final report just issued that the boundaries of more than 20 per cent. of the nearly 15,000 civil parishes in England and Wales, dealt with in the report on the Census in 1881, were altered during the intercensal period 1881-91. Independently of these parish changes, the boundaries of boroughs (parliamentary and municipal), of urban sanitary districts, and of ecclesiastical parishes are matters of everyday occurrence, and since the creation of county councils are of increasing frequency. Such changes amount to thousands in the course of ten years, and when a new Census is taken, the report on which is required to show the enumerated population for each area both in the new and in the preceding Census, it is obvious that an enormous delay is caused by the necessity for ascertaining the population of each altered area at the preceding Census. It has been suggested again and again that a small permanent Census staff should be retained in order to keep abreast of all these constant changes of areas and to make the desirable preparations for the next Census, which would necessarily enable the report to be issued more promptly. This permanent staff would, moreover, serve as the trained nucleus of the enlarged staff employed at the time of the Census. Whether Government will be inclined to adopt this often proposed small permanent Census staff or not, there is one other direction in which it may be hoped that the time necessary for the preparation of future Census reports may be abridged. Electrical tabulation by means of perforated cards representing each enumerated individual has been adopted at recent Censuses, not only in the United States, but also in Canada, Austria, and in several other states. It may reasonably be expected that any defects in this system which experience may have brought to light in these countries will have been rectified before the time arrives for taking another Census in this country, and that its adoption in the English Census Office will materially expedite the mass of tabulation which a Census report involves.

The general report just issued appears to be full of varied interest on many topics intimately connected with public health and social conditions which we shall take an early opportunity to consider in detail.

THE ISLAND OF MADEIRA.

As a general rule, there exists considerable difficulty in obtaining what may be described as adequately accurate reports concerning many of our accredited health resorts. It is, therefore, not undesirable to record the result of personal observation made during a brief visit to so renowned a winter resort as the island of Madeira. The search for an ideal climate for prolonged residence has not been fully successful; as yet the fortunate spot exists only in the imagination of the poets. For example, Tennyson has described

"The island-valley of Avilion;
Where falls not hail, or rain, or any snow,
Nor ever wind blows loudly; but it lies
Deep-meadowed, happy, fair, with orchard lawns,
And bowery hollows crowned with summer sea."

And Swinburne, in Atlanta in Calydon, speaks of

"Lands undiscoverable in the unheard-of west,
Round which the strong stream of a sacred sea
Rolls without wind for ever;"

A place where there is no snow, where neither the thunder

"Nor swift rain saith anything,
Nor the sun burns, but all things rest and thrive."

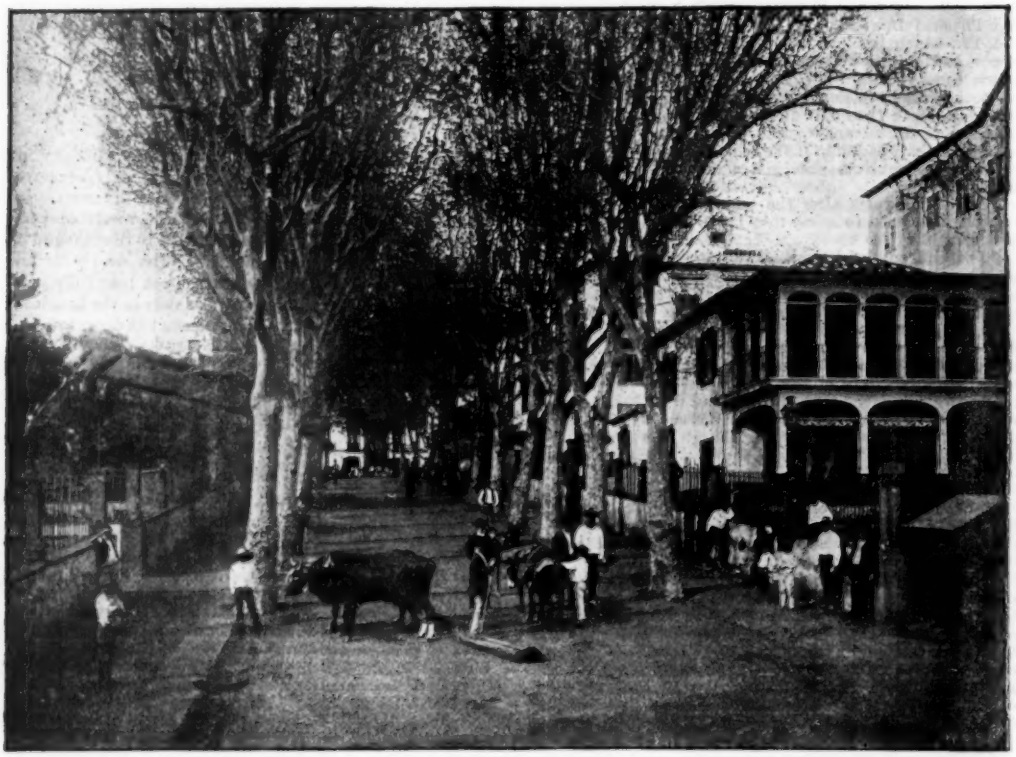
This, however, is the climate found only around "the remote throne of souls." But, alas, we cannot bodily sojourn in these desirable climes. The climate of Madeira is one of the main factors on which the island depends for the visitors who bring to it its wealth, and, if not ideal, has at any rate a great deal to recommend it.

Situated in mid-ocean, some 1500 miles from the shores of England, the island of Madeira lies between the parallels of 32° 49′ 44″ and 32° 37′ 18″ N. latitude and between the longitude of 16° 39′ 30″ and 17° 16′ 38″ west of Greenwich—that is, 10° north of the tropic of Cancer. Its position can be best mapped out by stating that a line from pole to pole passing through Madeira would cross Iceland and Greenland, and that a belt drawn round the world passing through Madeira would strike Alexandria, the Bermudas, and Charlestown, and would pretty nearly pass through Jerusalem. Most writers who have dealt with the group of volcanic islands off the African coast have spoken of them as classical islands, and besprinkled largely their descriptions with classical fiction and myths. The terms "Elysian Shores," "Islands of the Blest," and "Fortunate Isles," are lavished upon each and all of them by different writers. Homer and Hesiod are invoked as authorities upon which to hang historical probabilities, and in later periods the descriptions of ancient mariners who sailed these seas are appealed to. Above all, it is remarkable that writers who have chanced to visit one particular island or group should, in dealing with that, attempt comparisons to the detriment of the other islands, in respect of which, however, opportunities of observation may have been less favourable.

Without attempting such flights, however, it is obvious that the spot selected as a wintering resort should possess certain

qualifications. Among others, it should be readily accessible to the health seeker, equable in climate, and possess adequate facilities for his occupation and amusement. It should have a clinical history derived from past experience. Further, its water-supply, its drainage, and its general cleanliness should be above suspicion. It will not be sufficient to substitute for these essentials any such makeshift as quarantine, which, whatever may be its advantages or disadvantages, cannot supply the place of a water-supply under due control or of a supervised system of drainage. A brief account of these points will indicate broadly the main grounds upon which Madeira bases her claim as a winter resort of the first order.

Before dealing with these subjects it will be permissible under the circumstances to allude to certain memories with which Madeira will always be associated in the minds of those connected with THE LANCET. The island of Madeira is for us, as for many others, fraught with memories classical enough and very real. It was in that sweet island that the "Senator, Coroner, and Medical Reformer," Thomas Wakley, the founder of THE LANCET, succumbed after a brief illness to the toils of an active and arduous life—distinguished in all capacities by an unflinching seeking after truth, and a fearlessness in setting it forth. It was exceedingly pleasant after a lapse of time of more than thirty years to find his memory still fresh in the minds of those whose lives had been spent in the island. Here was pointed out the chair on which "Coroner Wakley" had so often rested, and there, again, the room in which he had displayed his skill at games of chess and whist, while many of the old residents could readily point out the house (a photograph of which we reproduce), in which he died. It was on Oct. 19th, 1861, having tried Brighton, Scarborough and other health resorts to combat an attack of senile phthisis, that, acting on the advice of Dr. C. J. B. Williams, Dr. Brinton, Dr. Bennet, and Dr. Marshall Hall, he sailed for Madeira. The vessel in which he sailed had not the comforts and conveniences for passengers that can now be obtained in the magnificent and world-renowned lines of steamships which ply weekly between Southampton and Madeira, and in which health, comfort, abundance of meals, mirth, and enjoyment can, with the aid of fair weather, always be ensured. Notwithstanding, however, the inconveniences of the voyage, those who sailed with Thomas Wakley speak of the fact as a kind of honour. The voyage was made in company with Dr. Heireke, who had formerly been engaged on the island in making some scientific observations, and Dr. Grabham, who has now been practising in the island since the above-mentioned year. Many were the friends he made in the island, where his memory is still cherished, for even his declining days in Madeira were marked by the exhibition of physical energy, untiring good humour, and pungent yet kindly criticism of the islanders and their mode of life. The gloriously equable climate, the soft and balmy air, produced an intermittence of his malady, and he speedily began to regain strength. The steepness and uneven surface of the island, the configuration of



The entrance to the town, showing the house in which Mr. Wakley, the founder of THE LANCET, lived when he visited the island.

which Columbus described to Queen Isabella by crushing up a sheet of paper in his hand and placing it on the table, did not permit Mr. Wakley to engage in much pedestrian exercise. The mode of conveying sick people in hammocks slung over poles and carried on the shoulders of hammock men he considered to be effeminate and too cramped. He therefore caused a chair to be constructed of a peculiar form in which he was carried about on the shoulders of two stalwart Portuguese. His death was the result of a fall on the beach when landing from a small boat, in which he had been sailing in the immediate neighbourhood of the coast. That happened on May 11th, 1862, and he died on May 16th. He had made arrangements to return home, and his passage was actually taken; but when he felt death was upon him, he gave instructions to have his body sent home just as if he were a living passenger. During his stay in Madeira he was under the care of Dr. Lund, whose attention was

unremitting. The body was embalmed and brought to this country by the *Comet*.

The following is copied from THE LANCET of June 7th, 1862, page 612:—"As an instance of the active and suggestive intellect of Mr. Wakley it may be mentioned that, suffering as he was at Madeira, he had meditated and carried out a plan for importing various English fruit trees into the island, the grafts of which were accordingly sent to him for the purpose."

We must now, however, leave these personal recollections to indicate the nature of the journey from London to Madeira, which can be accomplished in a surprisingly short time. Starting on Saturday at 11 o'clock in the forenoon the island is reached on Wednesday morning, under those circumstances of luxury, ease, and comfort which are always ensured on the excellent vessels plying between this country and that island, and although to some people the undertaking of a four days' voyage appears very formidable, to most a short sea trip has a bracing and inspiriting effect, and it is with a feeling of keen regret that the genial companionship formed during

A street in Madeira.

his trip is left behind on stepping into the small boat which conveys him to the jetty.

In a recent article on "Life at Sea" Mr. H. D. Traill hits off the mental attitude of passengers during a brief sea voyage such as that to Madeira. He says: "Man, or at any rate average man, approaches as near to the condition of mechanism as perhaps it is possible for him to approach without actually becoming a machine. Human life is reduced to its purely animal processes, and the great facts and forces of nature exist for the sole purpose of ministering to them. The sun rises that you may bask in its rays; the sea breeze blows for the disinterested encouragement of your appetite; the moon and stars are to look at while you smoke before 'turning in.' That the sea may lull and rock you to sleep is without doubt the final cause of its cradle-like movement, and the sufficient explanation of its soothing sound. You say to yourself as you sink to slumber that the ingenious Dr. Paley could not have anywhere found a more triumphant proof of his great doctrine of design in creation." His description of one's self-complacency on board ship, after the initial discomfort, is certainly not overdrawn.

At Madeira the facilities for landing are of a kind to be found at all ports destitute of a harbour; but the accommodation for the landing of sick passengers can be much improved by the use of the hammock or chair, in which the passenger may be swung over the side of the vessel, taken ashore, and brought to his bedroom. For the comfort of passengers for Madeira who have not secured rooms the proprietors of the various hotels meet the vessels and courteously proffer information. There is no such nuisance as the hotel tout. They will spare the visitors the necessity of accompanying their baggage to the Custom House and so relieve them of responsibility and trouble, which make more painful by comparison the delay and scramble for luggage on the return journey to English ports.

Without at present dilating on the heavy Customs duties, with which, after all, the visitor is not much concerned, it may be useful to refer to the hotel tariff, which is by no means prohibitive, unless it may be in the case of wines, spirits, and

Banana Cultivation.

other alcoholic liquors; also it may be stated that excellent rooms and living can be obtained at the rate of from 12s. a day upwards in the best hotels. The accommodation is far and away superior, the attendance throughout the island more punctual, and the charges more in keeping with a sense of the harmony and fitness of things than can be found at the health resorts among the Scottish hills. The hotels of Oban, Rothesay, Arran, the Trossachs on each or all of these points do not stand comparison.

After passing the beautiful serrated ridges of the island of Porto Santo and the desolate-looking, square-topped rocks known as Las Desertas, a spectacle not easily surpassed for imposing splendour opens upon the voyager as the ship enters the anchorage ground of the Bay of Funchal, enclosed in its vast amphitheatre of hills. Rising on the brow of the enclosing hills terrace upon terrace are seen the beautiful white-washed quintas which form the dwelling places of the English residents and of the richer portion of the inhabitants, while at their feet in the foreground

are the dwelling places of the humbler residents. The projecting sides of the bay are decorated with two buildings of a massive and modern architecture. Perched upon a lofty rock, 190 ft. above sea-level, but almost overhanging the sea, is the princely New Hotel, built there to accommodate English visitors on account of the natural beauties and hygienic perfections of that part of the island. The other end of the bay is occupied by the lazaretto, a monumental building erected at a cost of £17,000, and admirably equipped for the purpose which it was intended to serve, a purpose to which, however, for reasons to which we will hereafter allude, it has long ceased to be put.

Even the accompanying illustrations, though feeble as compared with the beauties of that nature they attempt to reproduce, will give some idea of the limpidity of the atmosphere,

Bella Vista Hotel Gardens.

the marble whiteness of the dwellings, and the illuminated and sunny character of the whole scene. It is easy to live in such a climate; there the struggle for existence seems almost to have ceased, for all around is cheerful, airy, and light. The main thoroughfare, leading from the seashore to the large open square in the town, is an avenue of Oriental plane trees whose giant leaves throw a grateful shade upon the houses and pedestrians. It was in this avenue that Mr. Wakley lived during his residence in the island. Here are seen bullocks with their sledges ready to convey merchandise from the quay to the different parts of the town. Their slow and almost noiseless movements and quiet demeanour harmonise well with the general peace and holiday appearance of the scene. The inhabitants show their appreciation of the climate by wearing the minimum amount of clothing, in regard to which, in summer or winter, they do not seem to make much difference. Then there is on all sides the triumph of vegetation—trees, shrubs, and plants budding forth in irresistible luxuriance. The very example of the prosperity of the vegetable world might seem to inspire a hope of health and renewed energy in mankind. All the vegetation of subtropical regions and many tropical plants are to be found here. Bananas grow in the open air, ripe dates fall from the palm trees, eucalyptus scents the air, and the mangolia and bouganvillia decorate with their gorgeous blossoms the surrounding gardens. All the flowers of subtropical regions are abundant, and it would not be an easy task to give even a brief list of their names.

In regard to the climate and the changes which are met with in so brief a voyage Mr. Leopold Hudson's[1] careful and very elaborate report and analysis of the mass of information locked up in that hitherto unworked mine, the logs of merchant ships, suggested a note from day to day of the variation of temperature on the journey from London to Madeira. The table below shows that the diurnal variation on any day does not exceed 6°, the minimum is 2° and the average variation for the journey 4°. The figures represent the temperature of the sea water taken during the return voyage. The ocean climate on the outward journey was even more equable. No reading was recorded without six trials and the temperature was taken sixteen feet from the surface of the sea.

Variation of Ocean Climate.

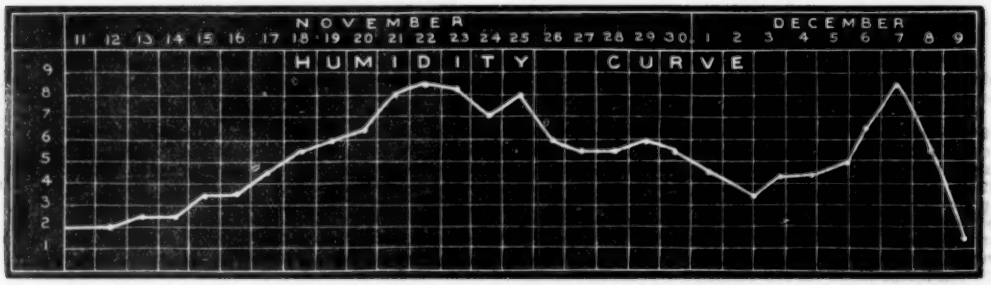
Date.	Lat.	Long.	Average temp.	Max.	Min.	Var.
Dec. 13	33·21 N.	16·04 W.	66·0°	68·0°	66·0°	2·0°
,, 14	33·26 N.	12 48 W.	63·0°	66·0°	60·0°	6·0°
,, 15	43 10 N.	9·43 W.	60·0°	62·0°	58·0°	4·0°
,, 16	48·12 N.	5·37 W.	55·8°	57·0°	52·0°	5·0°

Taking into consideration that the variation between the maximum and minimum temperature recorded at THE LANCET Offices, Strand, on Dec. 13th, 1893, was 7°, on the 14th 7°, on the 15th 10°, and on the 16th no less than 17°, the equability of the ocean climate during the four days' voyage becomes by comparison extremely manifest.

The weather at Madeira during the period from Nov. 21st to Dec. 9th, 1893, is accurately represented by the subjoined table.

Madeira Weather from Nov. 21st to Dec. 9th, 1893.

Date.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Remarks.
Nov. 21	N.E.	65·0	57·0	Rain.
,, 22	N.E.	66·0	57·5	,,
,, 23	N.E.	63·5	55·5	Showery.
,, 24	N.E.	65·5	58·5	,,
,, 25	N.E.	62·5	54·5	,,
,, 26	E.	63·5	57·5	,,
,, 27	N.E.	65·0	59·5	,,
,, 28	N.E.	62·5	57·0	,,
,, 29	E.	64·0	58·0	Much rain.
,, 30	S. to S.W.	64·5	59·0	—
Dec. 1	E.	65·0	59·5	Gusty.
,, 2	E.	63·0	60·5	Damp.
,, 3	E.	64·5	60·0	Wet & muggy.
,, 4	E.	61·0	58·5	Fine.
,, 5	E.	60·5	55·5	,,
,, 6	E.	64·5	56·0	—
,, 7	E.	64·5	58·0	Warmer.
,, 8	W.	65·0	61·0	,,
,, 9	W.	60·5	59·0	,,



On looking at the table it should be observed that the temperatures have been taken at 9 o'clock in the morning at Reid's New Hotel, at an altitude of 190 ft. above the sea level. The readings represent the temperature in the shade, the highest being 66° and the lowest 60°, as against 51° and 36° at Charing-

[1] THE LANCET, vol. ii. 1893, p. 977.

cross. If the humidity curve be compared with the table of Madeira weather it will be found that on Nov. 22nd to Nov. 29th it was highest, showing the atmosphere to be in a very dry condition. This curve, it will be noticed, was obtained by reading the difference between the dry and wet bulb thermometer. The rainfall and the humidity curve do not agree, and the reason is obvious both in Madeira and in Cornwall, where this is also observed.

The interpretation of the chart affords this information as to the rainfall. Starting from Nov. 21st, when the humidity is represented as 8°, rain is recorded as falling; and until the 29th, by which time the curve has fallen to 6, the weather is described as showery, rainy, and very damp respectively, clearly showing, of course, that the rain was in no way due to the humidity of the atmosphere, but was falling through only a comparatively dry air. From the 4th to the 9th, though the curve represents a nearly saturated atmosphere, the temperature at 9 A.M. being wet bulb 59°, dry bulb 60·5°, leaving only one-half a degree wanting before complete saturation point was obtained, the weather is nevertheless recorded as "fine."

(To be continued.)

CHOLERA.

CHOLERA continues to prevail in St. Petersburg to a limited extent. There were still about 30 fresh cases daily, with some 15 deaths, according to recent reports from that city. The disease is stated to have broken out in several boarding-schools in the city, and the pupils have been dismissed to their homes.

The disease, however, seems to have altogether disappeared in Germany. Only 6 cases of a mild type had been reported in the German Empire since Dec. 8th. *The Times* correspondent reports that in 1892 there were 19,719 cases of Asiatic cholera in Germany, of which 8590 died. The Hamburg epidemic occurred in that year, and served, of course, to swell the rate of cholera mortality. The epidemic greatly decreased in Germany in 1893. Between January and March of that year there were 213 cases and 89 deaths registered, and during the summer 569 cases and 288 deaths. In addition to these there were 92 instances in which cholera bacilli were discovered in individuals presumably affected with the disease, but in whom it did not develop symptoms of gravity. There have been no cases of cholera notified in Germany since Dec. 22nd last.

It is stated that the epidemic of cholera at Teneriffe caused altogether 1000 deaths, an enormous proportion in so small a community. The disease is stated to have spread with great rapidity in the island, notwithstanding the application of stringent quarantine regulations and the most liberal use of disinfectants. Trade was paralysed and the population suffered much misery and hardship.

The *Times of India* of Dec. 9th last has a long article on the real breeding-ground of cholera, *apropos* of articles that have appeared in THE LANCET, as to the importance of our recognising Arabia and the Haj cities generally as sources of that disease which happen to be a great deal nearer to Europe than India. The article shows that the attempts which have been made to prove that cholera is exported from India in pilgrim ships have broken down, and that in the instances of the ships *Deccan* and *Sculptor*, cited by M. Henri Monod, the director of the Assistance Publique of the Department of Public Hygiene in France, neither of these vessels ever reached Jeddah. The pilgrims in the former vessel were landed at Cameran in July, 1890, and quarantined; but cholera was already raging in Mecca at the time and the pilgrims returned to Bombay. In the case of the ship *Sculptor*, the pilgrims had no cholera till after they had reached Cameran and, despite of remonstrances, had been put into buildings that had been occupied by the cholera-infected pilgrims of the *Deccan*. As in the case of the latter ship, the *Sculptor* re-embarked and brought the survivors back to Bombay instead of proceeding to Jeddah. So that it comes to this: in one case, the pilgrims were accused of carrying cholera to a place where it was already raging, and in the other they actually contracted the disease, of which they had previously been free, at Cameran; but in neither instance did the pilgrims go to either Jeddah or Mecca, where they were supposed to have introduced it. The facts, so far as we know them, point to an infected locality, rather than infected persons as the cause. The *Times of India* generally endorses the views advocated by THE LANCET as to international action being called for in this matter and the establishment of an international board of health at Jeddah. Our contemporary concludes a very sensible article by saying that quarantine and quarantine stations will do little or nothing towards checking the progress of epidemic cholera so long as the cities of Arabia are themselves, from local removable causes, hotbeds of disease. The Sultan has already promised something in the way of reform, as far as Cameran is concerned. The existing sheds are to be replaced by a substantial building provided with proper sanitary appliances. Means will be taken to supply filtered water, and engines are to be erected for the manufacture of ice. New landing-stages are to be provided, by the aid of which the debarkation of pilgrims will be reduced to three hours. For such pilgrims as prefer to make the Haj early in the season a quarantine station will be erected near Jeddah, and a rest-house capable of accommodating 6000 persons is to be built near Mecca for the benefit of the poorer class of pilgrims. This is a beginning in the right direction, but the sanitation of Mecca itself must also be attended to, as well as that of Muna and the other Haj cities.

REPORTS OF LUNATIC ASYLUMS FOR 1892.

Bethlem Royal Hospital.—The daily average number of certified patients in residence at this hospital during the year 1892 was 243, as compared with 246 in 1891. The admissions of certified patients who were detained for treatment numbered 238. Of these, 68, or 29 per cent., had had previous attacks and 87, or 36 per cent., had a family history of insanity, whilst in 53, or 22 per cent., there was a family history of alcoholism. Of these 53, 11 seemed to owe their attack of insanity to the abuse of alcohol, as against 6 patients whose insanity was to be attributed to the same cause without such inheritance. The percentage of patients who were discharged as recovered was, for men 42·9, for women 52·6 and for both sexes 48·3. The total number of deaths for the year was 17, the percentage being, for certified patients alone, 10·1 and 4·1 for males and females respectively, and for both sexes 6·9. There was one case of suicide; it was that of a young melancholic patient who had shown very marked signs of improvement and who was allowed to go with an attendant to the Agricultural Hall. Whilst there he escaped from the attendant and made his way to a friend, from whom he borrowed some money, and purchased a second-hand revolver, with which he shot himself in a barn. The coroner's jury were able to acquit the asylum authorities of all blame. As Dr. Percy Smith says, it is not always possible to know what is passing in the mind of a determined patient, however satisfactory his progress may have been towards recovery. He states that of the whole number of patients who were admitted no less than 60 had a history of having had influenza at some antecedent period. In many of these the insanity was merely *post hoc* and not *propter hoc*; but in 16 cases influenza seemed to have played a most important part in producing mental disease, though it was of course not necessarily the only factor leading to it.

City of London Asylum at Stone.—There were under treatment in this institution during the year 498 patients, of whom 253 were males and 245 females. The average number daily resident was 414 (199 males and 215 females), being an increase of 25 as compared with 1891. The admissions numbered 114 (72 males and 42 females). As regards the bodily health on admission of the 72 males, 18 were in ill-health and 30 were suffering from debility; of the

42 females, 5 were in ill-health and 15 were debilitated. Regarding the mental state of the patients 16 males presented definite symptoms of general paralysis of the insane, and the relation of mania to melancholia was 38 to 27 for the males, and 24 to 15 for the females. The proportion of recoveries to admissions was 28·81 per cent. for the males, 28·57 per cent. for the females, and 28·73 per cent. for the two sexes. This is 29·39 per cent. below the average recovery rate of the four previous years for this asylum, and 11·65 per cent. lower than the average recovery rate for the county and borough asylums of England and Wales for 1891. This low rate is to a large extent attributable to the admission of cases in bad bodily health and of chronic cases which would otherwise have been unlikely to recover. The proportion of deaths per cent. to the daily average numbers resident was 10 for the males, 6·97 for the females and 8·45 for the two sexes. The average mortality, similarly calculated, for the county and borough asylums of England and Wales in 1891 was 10·41 per cent. Interesting charts are given showing the yearly fluctuations in the admissions, recoveries and deaths since the opening of the asylum in 1866.

Worcester (City and County) Lunatic Asylum.—The number of inmates in this asylum on Dec. 31st, 1892, was 926, of whom 407 were males and 519 females, the daily average number resident being 882. In only 42 per cent. of the admissions was there any hope that recovery would ensue and in many of these the probability was a very slender one. The percentage of recoveries was 25·2 for the males and 40·7 for the females. The percentage of deaths on the daily average number resident was 12·4 for the males, 5·6 for the females and 8·5 for both sexes. Of the 75 deaths, 26 were due to diseases of the brain and spinal cord and 33 to diseases of the heart and lungs, the remaining 16 being due to other diseases. One inquest was held. It was upon a female patient, who stated, both before she left home and soon after she was admitted to the asylum, that she had thrust a darning needle into her stomach in the hope of committing suicide. Successive examinations failed to discover the presence of a needle, although from time to time the patient had various symptoms of obscure origin. After several months she improved somewhat, but in the early part of the year phthisis developed, from which she died about a year after admission. A post-mortem examination was made and a large darning needle was discovered, being partly embedded in the liver and partly lying between that organ and the ribs. The verdict of the jury was that "E. W—— died from tubercular disease of the lungs and all other organs." Though not directly, the needle was indirectly, the cause of death, for the irritation and suppuration which it set up caused disease of the abdominal glands, which ultimately resulted in phthisis.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 5280 births and 4481 deaths were registered during the week ending Dec. 30th. The annual rate of mortality in these towns, which had declined from 28·6 to 24·7 per 1000 in the preceding three weeks, further fell last week to 22·6. In London the rate was 23·3 per 1000, while it averaged 22·2 in the thirty-two provincial towns. The lowest rates in these towns were 15·6 in Preston, 16·4 in Blackburn, 16·7 in Leicester, 17·1 in Portsmouth, and 17·8 in Swansea; the highest rates were 25·2 in Sunderland, 26·3 in Liverpool, 27·0 in Brighton, 28·6 in Birkenhead, and 49·3 in Plymouth. The 4481 deaths included 487 which were referred to the principal zymotic diseases, against 545 and 487 in the preceding two weeks; of these, 150 resulted from whooping-cough, 101 from diphtheria, 85 from measles, 51 from "fever" (principally enteric), 49 from scarlet fever, 38 from diarrhœa, and 13 from small-pox. No fatal case of any of these diseases occurred last week in Brighton or in Swansea; in the other towns they caused the lowest death-rates in Leicester, Bolton, and Huddersfield, and the highest rates in Salford, Oldham, Birkenhead, and Plymouth. The greatest mortality from measles occurred in Salford, Birkenhead, and Norwich; from whooping-cough in Hull, Bristol, Birkenhead, and Plymouth; and from "fever" in Sunderland. The mortality from scarlet fever showed no marked excess in any of the large towns. The 101 deaths from diphtheria included 79 in London, 3 in Manchester, 3 in Sheffield, and 3 in Newcastle-upon-Tyne. Five fatal cases of small-pox were registered in Birmingham, 3 in Bristol, 3 in Bradford, and 1 each in Nottingham and in Oldham, but not one in London or in any other of the thirty-three large towns. The number of small-pox patients in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital, which had been 128, 118 and 100 at the end of the preceding three weeks, had further declined to 93 on Saturday last, the 30th ult; 14 new cases were admitted during the week, against 22 and 23 in the preceding two weeks. The Metropolitan Asylum Hospitals and the London Fever Hospital contained 2988 scarlet fever patients on the same date, against 3129, 3102, and 2993 at the end of the preceding three weeks; 264 new cases were admitted during the last week, against 295 and 285 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 841 to 635 in the preceding three weeks, further fell to 516 last week, and were 104 below the corrected average. The causes of 101, or 2·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Cardiff, Bolton, Sunderland, and in five other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leicester, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined from 27·8 to 22·3 per 1000 in the preceding four weeks, further fell to 21·8 during the week ending Dec. 30th, and was 0·8 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 19·6 in Edinburgh and 20·3 in Glasgow to 25·5 in Dundee and 36·0 in Perth. The 615 deaths in these towns included 29 which were referred to whooping-cough, 11 to scarlet fever, 9 to diarrhœa, 8 to diphtheria, 4 to "fever," 1 to measles, and 1 to small-pox. In all, 63 deaths resulted from these principal zymotic diseases, against 68 and 56 in the preceding two weeks. These 63 deaths were equal to an annual rate of 2·3 per 1000, which was slightly below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had declined from 33 to 27 in the preceding three weeks, rose again to 29 last week, of which 10 occurred in Dundee, 8 in Glasgow, and 7 in Perth. The 11 deaths referred to scarlet fever exceeded those recorded in any recent week, and included 8 in Glasgow. The fatal cases of diphtheria, which had been 13 and 10 in the preceding two weeks, further declined to 8 last week, of which 3 occurred in Glasgow and 2 in Edinburgh. The 4 deaths referred to different forms of "fever" showed a decline of 2 from the number in the preceding week, and included 2 in Glasgow. The fatal case of small-pox occurred in Leith. The deaths referred to diseases of the respiratory organs in these towns, which had been 180 and 172 in the preceding two weeks, further declined to 155 last week and were 56 below the number in the corresponding week of last year. The causes of 27, or more than 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·2 and 30·4 per 1000 in the preceding two weeks, further rose to 36·8 during the week ending Dec. 30th, a higher rate than in any week since May, 1892. During the thirteen weeks of last quarter the death-rate in the city averaged 27·4 per 1000, against 23·2 in London and 22·3 in Edinburgh. The 247 deaths registered in Dublin during the week under notice showed an increase of 43 upon the number in the previous week, and included 20 which were referred to the principal zymotic diseases, against 14 and 20 in the preceding two weeks; of these, 6 resulted from "fever," 6 from whooping-cough, 3 from measles, 3 from diarrhœa, 2 from scarlet fever, and not one either from small-pox or diphtheria. These 20 deaths were equal to an annual rate of 3·0 per 1000, the zymotic death-rate during the same period being 3·0 in London and 1·2 in Edinburgh. The fatal cases of whooping-cough, which had been 3 and 6 in the preceding two weeks, were again 6 last week. The deaths referred to different forms of "fever," which had been 6 and 10 in the preceding two weeks,

declined again to 6 last week. The mortality from measles and from scarlet fever exceeded that recorded in any recent week. The 247 deaths registered in Dublin last week included 44 of infants under one year of age and 50 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon recent weekly numbers, while those of elderly persons showed a decline. Thirteen inquest cases and 16 deaths from violence were registered; and 89, or more than a third, of the deaths occurred in public institutions. The causes of 20, or more than 8 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS IN THE MEDICAL STAFF.

SURGEON-CAPTAIN ADAMSON has been posted to the Curragh on return from foreign service, and Surgeon-Captain White to Shorncliffe. Surgeon-Captain Allen has been appointed to the Medical Staff of the Royal Arsenal, and his place at Woolwich has been filled by Surgeon-Captain Hosie. The following officers have resumed duty on return from leave: Surgeon-Captain Sparks, Warley; Surgeon-Lieutenant-Colonel Anderson, Bury St. Edmunds; Surgeon-Major Johnston, Edinburgh; and Surgeon-Major Young, Parkhurst.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel H. S. Muir, M.D., A.M.S., Principal Medical Officer of the North-Western District, is promoted to the rank of Surgeon-Colonel.

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced: Surgeon-Major J. Anderson, Civil Surgeon, Bareilly, to Visiting Medical Charge of Pilibhit, in addition to his other duties. Surgeon-Major D. F. Barry, Civil Surgeon, Sitapur, to be in Visiting Medical Charge of Kheri, in addition to his other duties. Surgeon-Captain W. B. Bannerman, M.D., to be Inspector of Vaccination and Deputy Sanitary Commissioner, Madras, in succession to Surgeon-Major D. F. Dymott, who is appointed to the Medical Charge of the 22nd Madras Infantry. Surgeon-Captain R. H. Clement, A.M.S., is granted six months' furlough to England, and Surgeon-Lieutenant-Colonel P. Murphy, M.D., I.M.S., Civil Surgeon, Nasik, is allowed furlough to Europe for twelve months. Surgeon-Lieutenant-Colonel E. R. Johnson, I.M.S., Secretary to the Principal Medical Officer, Her Majesty's Forces in India, retires from the Service. The appointment of Surgeon-Captain Younger to the 8th Bombay Infantry, notified in November last, is cancelled.

NAVAL MEDICAL SERVICES.

Fleet-Surgeon Thomas Browne, M.D., has been promoted to the rank of Deputy-Inspector-General of Hospitals and Fleets in Her Majesty's Fleet.

The following appointments are announced: Surgeons: C. J. Fyffe, M.B., to the *Raleigh*; J. M. France, to the *Ringdove*; G. E. Kennedy, to the *Marathon*; G. H. Foott, M.D., to the *Lapwing*; and J. M'C. Elwee, M.D., to Plymouth Hospital.

THE VICTORIA CROSS.

The *London Gazette* of Jan. 2nd announces that Her Majesty has signified her intention to confer the decoration of the Victoria Cross upon the following officer in recognition of his conspicuous bravery during the attack on the Sima Post by Kachuis, on Jan. 6th last, as stated below: "Surgeon-Major Owen Edward Pennefather Lloyd, Army Medical Staff. During the attack on the Sima post by Kachuis, on Jan. 6th last, Surgeon-Major Lloyd, on hearing that the commanding officer, Captain Morton (who had left the fort to visit a picket about eighty yards distant) was wounded, at once ran out to his assistance under a close and heavy fire, accompanied by Subadar Matab Singh. On reaching the wounded officer Surgeon-Major Lloyd sent Subadar Matab Singh back for further assistance, and remained with Captain Morton till the Subadar returned with five men of the Magwe Battalion of Military Police, when he assisted in carrying Captain Morton back to the fort, where that officer died a few minutes afterwards. The enemy were within ten or fifteen paces, keeping up a heavy fire, which killed three men of the picket, and also Bugler Purna Singh. This man accompanied Captain Morton from the fort, showed great gallantry in supporting him in his arms when wounded, and was shot while helping to carry him back to the fort. The native officer and five sepoys above alluded to have been awarded the Order of Merit."

PRINCIPAL MEDICAL OFFICER, MADRAS.

The post of Principal Medical Officer of Her Majesty's troops in Madras, in succession to Surgeon-Major-General Hoysted, has been conferred upon Surgeon-Colonel Walsh, who receives local rank.

SECUNDERABAD.

It is reported that there is a great deal of fever at Secunderabad and that the Station Hospital is full of patients.

Her Majesty's ship *Crocodile* on Jan. 1st brought home nine invalids for Netley from India.

SELF-GOVERNMENT AND SANITATION IN BENGAL.

The *Pioneer Mail* of Dec. 14th last contains a very commonsense article upon the above subject. It appears that public money is being spent in providing higher education for those who could very well afford to provide it for themselves, while the more urgent needs of sanitation in towns and villages are neglected. Our contemporary holds that the first object which should claim the attention of both district boards and municipalities is the keeping of the ratepayer alive and in a better state of health than that in which the inhabitants of some of the districts of Bengal spend their existence. When these objects have been attained it will be time to think of educating them. Primary education is no doubt necessary for those who have to struggle through the fight for existence which the Indian peasant has to carry on, but higher education forms no part of the obligation which the ratepayer has to carry out in the meantime. The removal of filth, a good water-supply, drainage, and the application of the elementary principles of hygiene, are the primary and pressing requirements of the native population. It is not so much from the effects of opium that the unfortunate natives of India are suffering, but from their living in the midst of surroundings which are deadly in a climate like that of India. That is the great and important question in India at the present time.

THE ADMINISTRATION OF THE ARMY MEDICAL STAFF.

Our service contemporary, the *Army and Navy Gazette*, of last week contained a long article on this subject, *apropos* of difficulties that had arisen in connexion with the appointments of principal medical officers. It will be remembered that, in the case of what our contemporary designates as the "Malta Muddle," there were two Surgeon-Major-Generals on the strength of that garrison for some months, and that the circumstance gave rise to a question in Parliament; and still more recently complications have arisen in the case of the Madras command, owing to the difficulty of meeting the requirements of the Government of India, on the one hand, and those of the authorities and regulations of the service at home, on the other. The situation as sketched by our contemporary certainly appears to be a sufficiently curious and embarrassing one. The *Army and Navy Gazette* alleges that the present condition of the Army Medical Department is most unsatisfactory and urges the appointment of a Royal Commission as a remedial measure for the removal of existing evils which are, it alleges, alike unfair to the service and the taxpayers.

THE SANITATION OF SRINAGAR.

Visitors from India to Kashmir will be glad to learn that a large and important scheme for the sanitation and improvement of the city of Srinagar is about to be carried out with the liberal coöperation of the Maharajah and members of the Kashmir Council. A sum of 3.13.800 rupees has been sanctioned for the purpose.

THE LADY DUFFERIN HOSPITAL AT RANGOON.

The local branch of the Lady Dufferin Fund appears to be doing successful work at Rangoon. Lady Lansdowne, who was accompanied by General Brackenbury and Captain Pollen, after inspecting the hospital, was presented with an address by Dr. Pedley setting forth the working of the branch during the year, and her Excellency, in replying through General Brackenbury, expressed her great satisfaction with the hospital and the success of the movement in Burmah.

Correspondence.

"Audi alteram partem."

LEPROSY AND HEREDITY.

To the Editors of THE LANCET.

SIRS,—I have read with much interest the short notice with which you have honoured the statistical returns of the Leper Asylum of Mauritius recently published by me. You express some disappointment that the tables should not have been accompanied by some comments on the facts brought out by this statistical record, as well as by some observations as to the cause of the fluctuation in the daily average number of lepers in the asylum during the period covered by these returns. I must state that in the few introductory remarks which accompanied these statistics I never professed to put forward any of the arguments which might be deduced therefrom, but merely to convey the ulterior object I had in view in publishing these figures. As a matter of fact my intention is, as you so appositely remark, to publish later on the arguments after having given the figures. But one thing I may at once tell you, and that is that, in my opinion, leprosy is a contagious disease, and, above all, essentially hereditary.

My object, however, in now addressing you is to dispel what appears to me to be a misconception of the system under which lepers who are natives of India are repatriated. In my remarks I alluded but incidentally to the subject, but, as a quite different construction has been put upon my remarks, I consider that the matter is one which deserves further consideration. You question the system under which "natives of India are sent back to their homes from Mauritius, where they have contracted an incurable and horrible disease, which spreads from the leper to the healthy man by virtue of its infectiveness," and you proceed to call upon influential public men to follow the example of His Royal Highness the Prince of Wales concerning the Smithfield leper, in order that there may be pointed out "in plain language the facts about the Mauritius lepers, who are sent back to India after having been infected with leprosy whilst working in Mauritius." I would premise my remarks on this point by stating that leprosy is not endemic in Mauritius. The proof of this is that on Sept. 4th, 1781, in virtue of orders issued by M. Chevreau, then Intendant of the isles of France and Bourbon, a Commission was appointed to inquire into the cause of the disease, the introduction of which into this colony was attributed by the colonists to Arab dhows and to Indians. Indian immigration, however, only dates from 1834, but according to the census which the English Government caused to be made in that year the enormous number of 102,276 lepers was returned in British India. According to the same census the Madras Presidency returned the largest number of lepers; then followed the Presidencies of Bengal and Bombay, and the dependency of Burmah, the most ill-favoured districts being those of Sindh, Assam, Orissa, Chota, Nagpore, &c. Leprosy being hereditary, the Indian labourers who were introduced in an *apparent* state of perfect health before their departure from India developed the disease here after a more or less prolonged stay in this colony. In a tropical and malarial climate they soon lost their power of resistance to the disease which, being latent, only needed a favourable opportunity for its development. This is no new theory that I am propounding, for, according to Budd, it is a well-established fact that all infectious diseases are propagated by *contage* (or the infectious element). When an individual member in a family is found to be affected with leprosy the source of the disease is, as a rule, sought for among its other members. In large centres or in largely populated towns these researches lead to no practical result, especially if the practitioner is a stranger to the locality. In such cases he is obliged to depend entirely upon the local information obtainable. Bretonneau de Tours lays it down as a rule that in order to successfully prosecute investigations in this direction it must be done in small communities where nearly all the inhabitants are known to one another.

It stands to reason that a medical man who has for a number of years lived and practised in a given locality is in a better position than any other to study and make himself acquainted with the particular diseases prevalent in such locality, and with the progress and the hereditary character of certain diseases, and of leprosy in particular. In the asylum under my charge hereditary transmission of the disease has been established beyond a doubt, and, in regard to certain families, I have been in a position to trace the disease as far back as the third generation. It therefore follows that your condemnation of the system carries no weight, because it is *not* a fact that labourers introduced in a healthy condition become contaminated in this colony. An important point is, I find, touched upon here. I am happy to observe that you admit the hereditary transmission and the infectiveness of leprosy—an admission which, to my knowledge, is not generally given utterance to in England, or by the Indian Leprosy Commission in particular. This Commission not only rejected the theory of the infectiveness of the disease, but even denied its hereditary transmission. However that may be, there is no gainsaying the fact that the number of lepers has considerably increased in this colony since the introduction of Indian immigrants—a fact which has been noticed in all colonies introducing coolies. I am, Sirs, yours truly,

POUPINEL DE VALENCÉ, M.D.,
President of the Royal Society of Arts and Sciences of Mauritius, Vice-President of the General Board of Health, and Medical Attendant to the St. Lazare Leper Asylum.

Mauritius, Port Louis, Dec. 10th, 1893.

"THE SO-CALLED ANTI-TOXIC FUNCTIONS OF THE LIVER."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Nov. 4th, 1893, your Paris correspondent gives Professor Bouchard's views on the anti-toxic action of the liver—viz., that the liver destroys toxines absorbed from the intestinal canal; and it is stated that this view has been supported by Schiff, Hegar, Roger, and others. It seems strange to me that such a deduction should be drawn from the experiments made by those observers, because they are at variance with the theory propounded by Eck, Stanlikow, Hahn, and Manus. It is not denied that after ligature of the portal vein an animal dies, and that the portal blood injected into other animals is injurious or fatal; but such an experiment merely shows that congestion or stasis in the portal tributaries (owing to the ligature) produces the conditions necessary for absorption of intestinal toxines. The experiments do not prove that ptomaine absorption is a normal occurrence. The crucial experiment is not to ligature the portal vein, but to divert the portal blood into the inferior vena cava, and this has been done by the observers quoted as being opposed to Professor Bouchard's view. Hahn and others found that of sixty animals operated on in this way forty succumbed to accidental causes, but twenty lived and exhibited symptoms attributed by those observers to carbamic acid poisoning.[1] Denys and Stubbe formerly held Professor Bouchard's views, but have lately abandoned them in favour of the opinion that carbamic acid is the cause of the symptoms when the functions of the liver are interfered with.[2] This opinion is supported by the fact that in certain diseases of the liver there is not much liver substance to carry on the supposed toxine-destroying functions of the organs and yet the patient may live for some time. It is curious to notice the shifting of opinions. At one time it was held that the poison in such cases was peptone, because peptone circulating in the blood was toxic. It was said to be rapidly eliminated when injected into the veins, until Starling showed that this belief was erroneous. Why peptone can support life if given by the mouth (and even enable the body to put on flesh—*vide* Gerlach) and yet be a poison when given subcutaneously is certainly puzzling. If it were otherwise, subcutaneous saline injections, with peptone and grape sugar, would be of immense service in certain diseases. I am, Sirs, yours truly,

Trinidad, Dec. 14th, 1893. HENRY ALSTON.

"THE SURGERY OF STONE IN THE BLADDER."

To the Editors of THE LANCET.

SIRS,—Mr. Thos. H. Aquino, assistant surgeon to the Civil Hospital, Hyderabad, Sind, has written an interesting and graphic letter, but it does not contain a single word of

[1] THE LANCET, April 4th, 1893.
[2] Brit. Med. Jour., Epitome No. 325.

disproof of the point which I stated as clearly as I could in my letter to you of Oct. 7th—namely, that it is irrational to write papers urging "The Complete Abandonment of the Cutting Operation for removing Calculi entire from the Bladder." The proof of the correctness of my statement is that calculi are not infrequently met with which cannot be seized by instruments introduced through the urethra, and that sometimes cannot even be detected until the finger has been passed into the bladder through a vesical incision. These are calculi lying in one or other of the vesical pouches described by me in THE LANCET of April 8th, 1891. The question of the "Tolerance of the Indian Bladder" is a side issue altogether, but I am easily beguiled from the straight and narrow way into an alluring by-path. In reading the papers which have led to this correspondence I find: 1. A native, aged sixty years, had his urethra opened by perineal incision. A phosphatic calculus weighing two ounces was crushed, and the bladder evacuated of débris by instruments, some as large as No. 20, passed through the perineal wound. He went home cured on the third day. 2. A youth aged eighteen years, afflicted with a huge vesical calculus, was so ill that after several consultations with colleagues it was thought that operation must be followed by death. The urethra was opened from the perineum, a lithotrite was passed through the wound into the bladder, the stone seized and broken up by the repeated blows of a hammer. Three ounces of débris were removed, and after two hours' work the patient was put back to bed. Four days afterwards the remaining four ounces of stone were similarly attacked and removed in one hour and a half. In three days the patient left the hospital, passing all his urine by penis and free from pain. 3. I also read that in a thousand cases of lithotrity there has been only one case of recurrence of stone. Am I not justified, being accustomed to the British urinary bladder, in marvelling at the vesical tolerance of the natives of India? Underlying, however, the whole subject which has led to this correspondence is really the question of the proper treatment of large vesical calculi. With your permission I hope to discuss this matter in a paper in your columns very shortly.

I am, Sirs, yours truly,

Wimpole-street, W., Dec 30th, 1893. G. BUCKSTON BROWNE.

"SYNCOPE AFTER INFLUENZA."

To the Editors of THE LANCET.

SIRS,—Mr. Percy Reynolds well remarks in his interesting narrative of syncope after mild influenza, which you publish in THE LANCET of Dec. 30th, that the case affords "much food for thought." The influence of influenza (to use a somewhat tautological expression which reveals how little there is in that nosological term) is recognised in the Registrar-General's returns as an aggravating factor in the death-rate from diseases of the chest generally. It would appear that of the 53,085 deaths due to disease of the circulatory system in England during 1891, 1355 were ascribed to syncope. Most of those who have had much experience of the debilitating epidemic now prevalent must recall instances of a similar sudden fatality. I have myself met with a case in which a delicate woman convalescent from influenza suddenly died of syncope on the night-stool which was beside her bed, and which she had sought immediately after recumbency. Mr. Reynolds does not comment upon his case, but appears to assume from the sequence of events mentioned in the title of his communication that cardiac thrombosis had preceded the fatal syncope. His reason, I imagine, for so doing was the presence of what he terms ante-mortem clot in the chambers of the heart. If he rests his assumption merely upon decolourisation of the blood-clot and not upon stratification or consecutive accretion, I think it is permissible to question whether the coagulation preceded the syncope or followed it. It has been proved that blood in the chambers of the dead heart takes considerably longer to coagulate than after extravasation into a vessel, and in this slow process a very considerable subsidence of the corpuscles is possible before the usual interval has elapsed when a necropsy takes place. In this case the examination was made next day. If I may be permitted respectfully to express an opinion, I should say that in the present instance the syncope was the initial event, and the decolourisation of blood-clot a post-mortem occurrence. It is not to be denied, however, that there seems to be some tendency to the formation of intra-vascular coagula in these cases. I have known the whole internal saphenous vein, and with great probability its continuation into the femoral and external iliac veins, to become plugged three weeks after convalescence from influenza, and after the patient was sufficiently recovered to leave the house. Without discussing the probable causes of this tendency, which are still but obscurely known, such cases preach the necessity for careful supervision of a patient until the debility so characteristic of many of these cases has passed off. The weak pulse means the weak heart as a rule, and the latter may on slight provocation give up the struggle, to contract and suddenly assume the fatal diastole characteristic of syncope from such causes.

I am, Sirs, yours truly,

ALEXANDER MORISON, M.D., M.R.C.P.

Upper Berkeley-street, W., Dec. 30th, 1893.

"THE DIFFICULTIES OF DIAGNOSING SMALL-POX."

To the Editors of THE LANCET.

SIRS,—The fact of the submission of a question of medical diagnosis to the arbitrament of a police magistrate affords food for reflection, and suggests the need of some further consideration of the point involved. The difficulty is a real one, which has occurred to many others beside Mr. J. D. Hirst Smyth, and which, in spite of what Mr. Curtis Bennett may say, cannot be got over by mending or marring an Act of Parliament. May I give one instance to illustrate how this difficulty may occur in practice? On Dec. 25th, 1892, a ship arrived in the Thames having on board a man who had been ill for four days. He was seen by two experienced and responsible medical officers, one of whom diagnosed the case as small-pox, the other as chicken-pox, and so it figured in their respective returns under different names. On Jan. 4th two cases were removed from the ship, and on the 9th a third, all undoubtedly suffering from small-pox. The remainder of the crew were then put on a hulk, from which, on Jan. 23rd, a case had to be removed, which was described as being clinically chicken-pox throughout, but it has been treated as small-pox on account of the history. This is the record of experienced men free from bias. The difficulty admitted, can anything be done to remove it? Or must the statement of Dr. Ricketts remain an established fact that in some instances variola and varicella so closely resemble each other that none but the most skilled observer is competent to distinguish the two diseases. Following the description of Dr. Gee, the eruption of varicella, which does not last more than a week, consists, first, of some rose spots simply hyperæmic, not shotty, which in a few hours become raised into blebs the size of split peas or larger, without areola, giving the patient the appearance of having been subjected to a shower of scalding water, the vesicles being unicellular and not umbilicated. Fresh crops appear for several successive days, then the vesicles dry up or are destroyed and the thing is over. Now if this is a fair description of the disease—and certainly cases are constantly seen answering to it—it is hard to understand how it can be mistaken for small-pox; in fact, it seems to me not quite easy to see in what ways the two diseases resemble each other. The difficulty is not really here at all; it is to be found in another set of cases, equally well known to all who have to do with children, cases such as this. A child is seen with some papules scattered over the body which have rather a shotty feel. The patient appears quite well, except perhaps for a rise of temperature of a degree or so, lasting only a few hours. Next day, looking carefully, some of the papules will be seen to be surmounted with minute vesicles, and on this or the following day one or two of them, remaining quite small, become more or less umbilicated. At this point the progress stops, a few tiny scabs from, perhaps, the umbilicated vesicles leave a slight mark. Now, what is this disease? I suppose it would receive the name of chicken-pox of that variety which gives rise to difficulty in diagnosis. Now, if the first described ailment is true chicken-pox, by what right can the second malady claim the same appellation? Can it, for instance, be clearly shown that either form breeds the other? Do the two forms resemble each other closely enough to be considered as derivatives from a common stock? On the other hand, have we any other instance of a specific disease assuming such different characters? Again, if this second form differs so markedly from typical varicella, does it not present a strong family likeness to variola—greatly

modified, I admit—a form in which it has aborted? May not these cases be, in fact, varioloid in their nature, and not varicella at all? I would submit this question: Does true varicella ever produce an eruption consisting of papules which may be felt, followed by vesicles which become umbilicated? If the answer is in the negative, then difficulty in diagnosis can scarcely ever arise; if in the affirmative, it seems to me that we are driven back upon the teachings of Hebra, which at present I for one am unable to accept.

I am, Sirs, yours truly,

Lewisham High-road, Jan. 1st, 1894. FRANCIS T. TAYLER.

"CHLOROFORM IN NASAL GROWTHS."

To the Editors of THE LANCET.

SIRS,—In the last fortnight two more deaths have occurred from the administration of chloroform for the removal of adenoid growths from the naso-pharynx. In one case I have reason to know that the danger of this anæsthetic was pointed out, and the alternative employment of nitrous oxide gas forcibly though unavailingly urged. Letters have recently been printed in the columns of THE LANCET and in those of its two weekly contemporaries, from the pens of Dr. Dundas Grant, Mr. Lennox Browne and Mr. Wyatt Wingrave respectively, urging the complete safety and efficiency of nitrous oxide gas in these operations. All these gentlemen are attached to the Central London Throat and Ear Hospital, where this anæsthetic has been employed during the last three years on about two thousand occasions with complete efficiency and without accident. I have myself been responsible for the administration of nearly half this number, as well as in from two to three hundred other cases in private practice. The new long list of fatal results from chloroform is calculated to bring a valuable operation into disrepute, and I venture to say, with all respect, that in the light of the foregoing experience the word "misadventure" cannot much longer be properly applied to the verdict.

I am, Sirs, yours faithfully,

W. G. HOLLOWAY, M.D. Cantab.,
Registrar and Anæsthetist to the Central London Throat and Ear Hospital.

Jan. 2nd, 1894.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle and Gateshead.

IT is expected that a special meeting of the governors of the Newcastle Royal Infirmary will be held shortly, to consider the report of the medical staff which gives expression to their opinion that the present site is unsuitable for the erection of a new building to contain 400 beds, as suggested at the last meeting. They consider that the present building, cramped by proximity to the cattle-market, does not admit of extension on the west or north sides. Some suggestions are to be made as to eligible sites, which will, no doubt, give rise to a great deal of discussion; there can be no doubt that the present building is situated in the very focus, as it were, of noisy traffic, and calls for speedy removal.—An interesting meeting took place last week in the board-room of the Gateshead Dispensary, being the jubilee of the Gateshead Medical Society. Dr. R. H. Wilson, who presided, said that the society was in touch with the ideas of the original founders, who commenced with the object of assisting the then public authorities by giving medical advice and assistance in epidemic diseases, and so acting in the dual capacity of medical officer of health for the corporation and for the union authorities. Since, however, the Legislature had appointed special officers for this purpose the society was now conducted more on grounds of an ethical character, and for the dissemination of medical literature amongst its members. Gateshead at one time took a more prominent part than it does now in medical movements—before the Newcastle and Gateshead Pathological Society was merged into other bodies, and when its moving spirits were Bennett, Brady, Barkus Dixon, and other departed worthies.

Death of a Distinguished Botanist.

The death is announced as having occurred on Friday last of a well-known botanist and traveller, Mr. Richard Spruce, of Castle Howard, Malton. Mr. Spruce was born on the Earl of Carlisle's estate, and in 1849 he was sent to South America, where he thoroughly explored the river Amazon and crossed the continent from the Atlantic to the Pacific, penetrating regions not before penetrated by man; but he will be best remembered as one of the pioneers who introduced the quinine—yielding cinchona into India and our other eastern possessions. He collected and described 7000 species of plants, ferns, and trees, many of them new and some of which have since proved of great commercial value. On his return to England the Government of the day gave him a pension for the valuable services he had rendered to botanical science. Since then Mr. Spruce, owing to failing health, had lived a retired life in his native place.

Border News.

The Coldstream Cottage Hospital held its annual meeting last week, the Earl of Home presiding. The report was satisfactory. Somewhat fewer patients had been treated than in the previous year. The revenue had also exceeded the expenditure.—A sad case, showing the dangerous effects of stone throwing, took place at Annan last week, when a boy aged fifteen was hit on the mastoid process by a companion and instantly fell dead.

Newcastle-on-Tyne, Jan. 3rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Glasgow Centenarians.

A WELL-KNOWN Glasgow lady, belonging to one of the old local families, has recently died at the age of 102 years and 55 days, having been born on Oct. 27th, 1791, and dying on Dec. 21st, 1893. "Old Mrs. Fullarton" was our furthest back link with the past: she must have known people who remembered "the '45" or even "the '15," and possibly some who remembered the last Riding of the Scots Parliament. She was born when Napoleon was a starving subaltern of artillery, when Nelson was a half-pay captain, and when Wellington was an officer in a marching regiment. She was aged sixteen during the battle of Trafalgar and had been for years a wife and mother at the time of the battle of Waterloo. Her maiden name was Janet Wilson. She was born at Kilmarnock and was the daughter of John Wilson, M.D., and Agnes Muir, his wife. Both her father and her mother came of medical families; one of her own grandsons was a physician of the seventh generation. In 1810 she was married to Mr. Allan Fullarton, to whom she bore twelve children—viz., six sons (all now dead), and six daughters (three still alive). Mr. and Mrs. Fullarton were married, therefore, eighty-three years ago; they were husband and wife for fifty-five years. Mrs. Fullarton was active till quite recently; she was very deaf, but had excellent eye-sight; she complained of defective memory, though those around her detected no trace of this; her mental powers, her decision of character, and her self-reliance were fresh and unimpaired to the last. It is somewhat remarkable that "old Mrs. Fullarton" was one (and not the oldest) of five undoubted centenarians who have died here within recent years. The other four were (1) Jean Brown, wife of Humphrey Ewing-Maclae of Cathkin, who died on Nov. 27th, 1874, aged 100 years and twelve days; (2) Isabel Euing, wife of Archibald Smith of Jordanhill, who died on Sept. 28th, 1855, aged 100 years and 187 days; (3) Jean Gibson, daughter of John Gibson, merchant in Glasgow, who died (unmarried) on Nov. 25th, 1887, aged 102 years and 187 days; and (4) Anne Wallace, daughter of John Wallace of Kelly, who died (unmarried) on Feb. 25th, 1873, aged 102 years and 239 days. Mrs. Fullarton, with her 102 years and 55 days was distanced by both Miss Gibson and Miss Wallace.

Dec. 26th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Presentation to Dr. Torrens.

DR. TORRENS has been presented with a handsome service of plate by his past and present pupils on the occasion of his marriage. The presentation consists of a solid silver tea and coffee set, richly chased, with tray and kettle to match. The

tray bears the following inscription:—"Presented to James Torrens, M.D., by his past and present pupils and a few friends on the occasion of his marriage—Dec. 28th, 1893." Dr. Torrens is a demonstrator of anatomy at the Schools of Surgery, R.C.S.; he is a successful teacher and a favourite with the students.

Sir Patrick Dun's Hospital.

An amateur performance will be held on the 10th inst. and two following days at the Leinster Hall in aid of the funds of this excellent institution. The programme includes tableaux from "The Christmas Carol" and "Alice in Wonderland."

Accident to Mr. W. F. Fullam of Balbriggan.

Last week, while driving down Balrothery Hill, the horse shied and upset the trap throwing Mr. Fullam violently to the ground, causing a compound fracture of the right leg. He is making satisfactory progress under the care of Mr. Nolan and Mr. McArdle.

Allegations against Hospitals.

A woman was recently found insensible and bleeding from injuries inflicted, and brought by the police to Sir Patrick Dun's Hospital, where her wounds were dressed, but she was not detained. The police next went to Mercer's Hospital, but the house surgeon refused to admit her, as he said it would be a breach of etiquette as she had been treated already in Sir Patrick Dun's Hospital. Ultimately she was conveyed to Jervis-street Hospital and admitted, dying shortly afterwards. A post-mortem examination discovered a large blood-clot over the right frontal and parietal lobes, but no fracture of the skull. The kidneys were diseased, she being of intemperate habits. The coroner's jury found that death was due to hæmorrhage on the brain, and added a rider that they considered the conduct of the officials of Sir Patrick Dun's and of Mercer's Hospitals as deserving of the gravest censure. Doubtless the authorities of the hospitals can supply facts which will put another aspect on the matter.

Health of Dublin.

The public health committee have issued a report on the prevalence of typhoid fever. Among the recommendations made is one that the main drainage committee should consider whether provision ought not to be made for the construction of a main subsoil drain along the north side of the northern intercepting sewers, and along the south side of the southern intercepting sewers, contemporaneously with the construction of new intercepting sewers. Further recommendations were to this effect: that the main subsoil drain be provided with intake branches, and regulating valves opposite all streets, at right angles with the said subsoil drain, so that branch connexions could be hereafter made from time to time by branch subsoil drains laid under the streets, and that pumping stations be arranged at the end of the north and south lines of subsoil drains to lift the water into the river. Two years ago the council adopted a recommendation of the borough surveyor to have a careful survey of all the main sewers and correct observations taken, not only with regard to the line, but also as to the flow of the sewage. Strange to say, nothing was done in the matter, and the public health committee suggest that it be carried out without delay, and that the borough surveyor shall also prepare a report on the condition, construction, and section of every line of street sewer, showing the level above invert at which the drains enter. The number of ventilators and manholes are to be indicated on a plan, together with the exact position and description of all the drains in connexion from the front wall of the houses to the sewers, as far as can be ascertained. It is the opinion of experienced sanitarians that not only the drains under the houses provided by the householders themselves, but also the cross drains from the houses under the street to the public sewers are in the vast majority of cases unsuitable, and allow foul air and foul drainage to leak into the subsoil. They therefore recommend that they be authorised to select a suitable district, preferably a street which is about to be newly paved, and to proceed to test every cross drain with hydraulic test from the house front area to the sewer, and in all cases where the drains are not watertight or there is any other serious defect, whether as regards position, direction, level, inclination, connexion with sewer, material, construction, interception, or size, that notice shall immediately be served upon the occupier or owner in the usual form, and that he be compelled forthwith to take out a licence and lay a new suitable drain, to be tested by the public health engineer according to the new by-laws. These are valuable suggestions, and if carried out must have considerable effect in improving the sanitary condition of the city of Dublin.

Medical Magistrate.

Mr. Richard Cronin of Slane has been placed on the Commission of the Peace for the county of Meath by the Lord Chancellor on the nomination of the Marquis of Headfort.

Jan 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Muco-membranous Enteritis.

PROFESSOR GERMAIN SÉE[1] is of opinion that in one-third of the patients, principally women, who are treated for gastric derangements no undoubted sign of dyspepsia, such as hypo- or hyper-acidity, dilatation of the stomach, or difficulty of digestion, can be discovered. These supposed dyspeptics are really suffering from an affection of the large intestine—muco-membranous enteritis. The symptoms are pain and swelling over the colon and gaseous fermentations; but the distinguishing feature of the disease is the presence in the stools of mucous, glairy, and cylindrical masses. The cause of the malady is habitual constipation, and the best means of combating it are—(1) to empty the bowel by mechanical means, such as enemata or the administration of olive oil, purgatives being carefully avoided; (2) to mitigate the pain by means of bromide of calcium or strontium, or of Indian hemp or opium; and (3) to control the fermentation by administering a combination of phosphate, salicylate, and biborate of sodium, benzonaphthol being inadmissible. No special restrictions as to diet need be insisted upon; but the following articles of diet should be recommended: ham, *charcuterie*, game, eggs cooked rather hard, milk, boiled or mashed potatoes, and lightly cooked rice, which may be spiced. Fruit is forbidden. As regards beverage, water and tea may be drunk *ad libitum*, but effervescing waters and alcohol are prohibited, the latter only being allowed temporarily if the digestion is very feeble. Red and white wines should be banished from the dietary.

Ulcers of the Stomach determined by Inoculation of the Toxines of Diphtheria.

Pathologists are now inclining to the belief that certain cases of round ulcer of the stomach are due to the action of microbes. Thus MM. Cornil and Chauffard have described such ulcers occurring after an attack of typhoid fever, and MM. Letulle and Widal have discovered streptococci in the thrombosed venules in connexion with gastric ulcers of puerperal origin. Experimentally, MM. Panum and Lebert have induced ulcers of the stomach by injecting pus into the circulation, and M. Letulle has done the same by intra-peritoneal injections of the staphylococcus. Finally, MM. Chantemesse and Widal found ulceration of the stomach after the introduction into it and into the peritoneal cavity of a bacillus discovered in certain cases of dysentery. MM. Enriquez and Hallion[2] injected subcutaneously into eight guinea-pigs and two dogs the toxine of diphtheria, 1½ c.c. to 2 c.c. being inoculated into the guinea-pigs and 2 c.c. per kilogramme of body weight into the dogs. The dogs died on the ninth and fourteenth days respectively with symptoms of gastro-intestinal catarrh (vomitings and bloody stools). Post mortem there were discovered in one case gastric and intestinal ecchymoses, and in the other ecchymoses as well as a gastric ulcer. The guinea-pigs survived from two to fifteen days. In seven of the eight gastric lesions were present. They consisted of multiple ulcers, involving almost exclusively the pyloric region and the lesser curve. Some of the ulcers were small and round, whilst others were larger and irregular in outline. In the neighbourhood there were some grey gangrenous patches which were easily detached, representing evidently the initial stage of the process of ulceration. These sphacelous plaques occupied nearly the entire thickness of the mucous membrane, reposing on its deepest layer,

[1] Académie de Médecine, Dec 26th, 1893.
[2] Société de Biologie, Dec. 23rd, 1893.

which was congested and infiltrated with round cells. Inflammatory thickening of the submucous coat, with obvious endarteritis, was also found. The writers of the paper believe that the ulcerations were consecutive to infectious endarteritis.

French Surgical Congress.

The permanent committee of this association has appointed Dr. Picqué general secretary, vice Dr. Pozzi, resigned.

A Farewell Ward Visit.

Having reached the age at which retirement is compulsory on hospital physicians, Dr. Guyot, of the Beaujon Hospital, paid his last official visit to his wards last week. All his old pupils accompanied him on his rounds, and Dr. Rendu, as his senior disciple, presented in their name a work of art in bronze to their old master. The ward nurses and the patients contributed a beautiful basket of flowers.

Academy of Medicine.

The vacant chair in the Therapeutical and Natural History section of the Academy has been filled by the election of Dr. Laveran, well known for his researches on the hæmatozoa of malaria. Dr. Laveran received 59 votes as against 12 given to his most successful competitor, Dr. Huchard.

Jan. 2nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Natural and Acquired Immunity from Disease.

BEHRING has a paper of extraordinary interest in the *Deutsche Medicinische Wochenschrift*, No. 48, on the Present Position of the Blood-serum Treatment. The discovery of specific poisons of bacterial origin has led to a search for specific remedies. The specific poison has been shown to exist by experiments relating to (*inter alia*) tetanus, diphtheria, glanders, and cholera. Formerly the object of treatment was to kill the parasite; we now use the parasiticide remedies for preventing the multiplication of micro-organisms in excreta, clothes, or dwellings, but we do not yet know how to use them with any effect upon the living organisms. The micro-organisms of disease are harmless in the system if the system be protected. Thus the convalescent from diphtheria have living and virulent diphtheritic bacilli in their mouths, often for weeks, but are unaffected by them. Persons, again, who have had or have been exposed to cholera may pass cholera bacilli in a state of activity and virulence by the bowel, and yet to all appearance be quite well. Such people are, of course, a source of danger to others. There is also a natural insusceptibility. White mice, we know, are not affected by diphtheria, nor do fowls contract tetanus. This natural immunity cannot be communicated by transfusion. There is, again, an acquired immunity, of which the effects of vaccination afford a familiar example; and possibly we may include here the immunity which some individuals eventually reach against alcohol, tobacco, and morphine. Such acquired immunity may, according to Behring, develop quickly or slowly. Immunity which is acquired quickly is connected with an alteration of the blood. Under the influence of systematic and gradually increasing doses of the tetanus poison the fluid constituents of the blood (serum) acquire the property of making the poison harmless; and if this antitoxic serum is injected into another animal, the latter also becomes for a time immune. Tetanus poison has three different effects on a susceptible individual: (1) it causes tetanus to a greater or less degree, with (2) development of antitoxine in the blood, and (3) a diminished susceptibility of the living tissues towards the poison. In animals treated with tetanus poison the first result is the appearance of antitoxine in the blood. As the treatment is continued each increased dose of poison causes a further reaction, and each reaction up to a certain point is followed by an increase in the amount of antitoxine. The animal has now acquired more or less complete immunity, and its blood contains antitoxine; but there comes a time when, in consequence of the impossibility of administering sufficiently virulent cultures either in quality or quantity, no further reaction can be obtained. No more antitoxine being now produced, that already developed gradually disappears from the blood, and the serum, if now transfused into another animal, no longer causes immunity. But the immunity of the original subject of experiment abides and increases. It is clear that in this stage the antitoxic quality of the blood (which has disappeared) cannot explain the continued immunity. Behring considers that this condition exhibits the formerly susceptible living tissues as insusceptible, and holds that this acquired immunity is comparable to natural immunity, and of the same nature. The immunity resulting from immediate assimilation of antitoxine he describes as "direct," while that following repeated reactions to doses of poison he calls "indirect." Animals that have been made directly immune by the injection of antitoxic serum as soon as the antitoxine is excreted are as susceptible as ever, and hence such an immunity cannot be transmitted by the semen, for instance. It is transitory; but the immunity of the living tissues is, if natural, permanent. The question—which Behring considers that time will prove—is whether the acquired immunity of living tissues is hereditary and permanent.

A Monthly Periodical of Hydropathics.

A monthly periodical of Hydropathics is about to appear, edited by Dr. A. Krüche in Munich, in association with Dr. Eulenberg of Berlin and Dr. Rosenbach of Breslau.

The Action of Tuberculin.

Dr. A. Klein[1] is of opinion that tuberculin does not act specifically on tuberculous tissues, but that it causes an increase in the power of exciting inflammation and suppuration possessed by streptococci and staphylococci. These micro-organisms are present in the majority of cases of tuberculous disease. The tuberculin increases their potency, so exciting local inflammation and producing a general reaction-fever. Experience has shown that a certain number of cases of tuberculous disease do not give any reaction with tuberculin, and in Dr. Klein's opinion these are cases in which the tuberculous condition is uncomplicated by the presence of other micro-organisms.

Jan. 1st.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Statistics of the Medical Profession in Austria.

ACCORDING to the official statistics published recently there were in Austria 6057 physicians holding the diploma of M.D. in the year 1891, and 6565 in 1892. In the former year there were also 1588 surgeons of the old surgical schools, but in 1892 this number had been reduced by death to 1532. The total number of medical practitioners in Austria in 1892 was 8097 against 7645 in 1891. The figures for 1893 have not yet been published.

The Decrease of Infectious Diseases.

It may be interesting to note that the number of deaths caused by infectious diseases has shown a marked decrease during the last twenty years in Austria. In 1873 deaths from infectious diseases of all kinds formed one-third of the whole mortality of the country, but in 1882 they amounted only to 21·05 per cent., and in 1892 they fell to 14·74 per cent. of the total mortality.

Menthol in Skin Diseases.

Since the connexion of "dermographism" and urticaria with intestinal disorders has been recognised, more attention has been paid to the influence of intestinal disorders on the condition of the skin. According to recent investigations there are many cases of common acne where the patient shows a great excess of indican in the urine; but as soon as intestinal putrefaction is stopped by the internal administration of menthol in small doses (0·25 gramme), the skin eruption becomes, *pari passu*, markedly improved with the disappearance of the indican which ensues.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Apothecaries Act in the Colonies.

IN August last a herbalist was charged before the District Court, Melbourne, with practising as an apothecary without

[1] Tuberculinwirkung. Braunmüller, Wien-Leipzig.

a licence. The proceedings were instituted by Dr. W. L. Mullen, the hon. secretary of the Victorian branch of the British Medical Association, who practises both as a medical man and as a barrister. The information was laid under the Apothecaries Act of 1815 (55 George III., c 194, s. 20), and Dr. Mullen contended that although certain sections of this Act had been embodied in the Victorian Medical Act, the sections omitted had never been repealed by the Victorian Legislature, and were therefore in force now, just as in the case of the old Act with regard to Sunday observance. When England granted the Charter of Self-government to the Australian colonies it was understood that the Imperial Acts would apply to the colonies, and accordingly the Apothecaries Act was in force in Sydney in 1827. It was urged for the defence that the Act was only applicable to England and Wales, as shown by its title, and that the Imperial Act was overridden by the Victorian Medical Act. The bench heard the case, formal evidence being tendered that the defendant had advised and given pills and medicine to a patient. The bench held the case to be proved and a fine of £20, the lowest penalty, was imposed. Dr. Mullen stated that he would not ask for costs or distrain, as his only object was to have it established that the Act was in force in the colonies, and so to deter unscrupulous persons from acting as apothecaries without being qualified. It was stated that the number of persons who would be affected by the decision was about 30 000, including "herbalists," "Chinese doctors," &c. An order to review the decision by the Supreme Court was granted, and Mr. Justice Hood recently gave his decision. In his honour's opinion the contention of the appellant that when the Victorian Legislature dealt with any subject it impliedly repealed any English legislation on that subject was far too wide. There was nothing inconsistent between the two Acts in this case. The English Act punished anyone who acted as an apothecary, not being licensed; the Victorian Act punished anyone who pretended to be an apothecary, not being registered. The Medical Act was merely a registration Act, and there was no reason for concluding that it repealed the previous legislation. The conviction was therefore upheld. This decision should provide the means for prosecuting the numerous quacks who live on the credulity of the public, but most of whom have hitherto adroitly evaded the provisions of the Medical Act by explicitly announcing that they were "not registered." There is a difficulty as to who shall conduct these prosecutions. The police will not interfere, and the Medical Board has neither the power nor the funds to do so.

The Medical Society of Victoria and THE LANCET.

The Medical Society of Victoria was founded in 1855 by the fusion of two societies then existing, the Port Philip Medical Association, founded in 1846, and the Victorian Medico-Chirurgical Society. Somewhat later in the same year the new society decided to publish a record of its transactions, and the *Australian Medical Journal* was founded. It has appeared ever since without a break, so that it is now one of the oldest monthly medical periodicals in the British dominions. Although the *Journal* was the organ of the society, by whom its editors were appointed, it was published independently, and subscription to it was optional. In 1890 the subscription to the society was raised and the *Journal* was supplied to every member. At the last meeting of the society it was decided to supply its members with THE LANCET instead of the *Australian Medical Journal*, which, however, will still remain the organ of the society.

A Proposed New Medical Society.

A meeting of provincial and country medical practitioners was held recently in Melbourne to consider the advisability of forming a new medical society for country practitioners. It was resolved to form such a society, to be called the Australasian Medical Association, the constitution to be determined by delegates from the various branches. Dr. Florance of Mooroopna and Dr. Scott of Ballarat were appointed to act as *interim* secretaries, and were empowered to draft a constitution for approval.

FOOTBALL CASUALTIES.—A youth aged nineteen years, of Thornaby, has died from lockjaw, supposed to have supervened from injuries sustained in a recent match. A youth, in a match at Pontymister on the 29th ult., fractured his left leg and was admitted to the Newport Infirmary.

Obituary.

ROBERT BENTLEY, M.R.C.S. ENG., F.L.S.

IN the person of Robert Bentley, who died on the 24th ult., at his residence in Warwick-road, Earl's Court, from pneumonia, there passed away a man who, although he did not practise our profession yet was a member of it, and conferred distinguished honour upon it by his devotion to a science which has always been, and must always be, closely associated with medicine. We allude to botany, of which valuable and interesting department of natural history he was the most prominent and enthusiastic propounder since the middle of the present century. Originally intended for the medical profession, he entered upon his work at King's College, London, in 1843, at a period when the school flourished under the teachings of Todd, Fergusson, Budd, Partridge, Simon, and Bowman. He was from the first remarkable among his fellows for his devotion to his work. Prominent among the teachers of the sciences allied to medicine was the celebrated Edward Forbes, at that time holding the position of professor of botany, and, whilst not neglecting his more practical studies, Mr. Bentley devoted a great deal of attention to the subject of botany and became an earnest and enthusiastic follower of Edward Forbes, whose demonstrations both in the lecture-room and by means of country excursions were so delightful to follow. As a result he carried off Edward Forbes's Prize, and the writer of this notice well remembers being present on the occasion when the prize was publicly presented, and when Mr. Forbes, in congratulating the winner, made the prophetic announcement that Mr. Bentley would make a great name for himself in connexion with botanical science; and how true that prophecy was the public and the profession were ere long able to verify.

After becoming qualified, Mr. Bentley gradually withdrew from the practical aspects of the profession and devoted himself to the study of botany and materia medica. He lectured on his favourite subject at the London Hospital, and when the chair of Botany became vacant at King's College he was elected to the post and continued to lecture to many generations of students who could not fail to appreciate his earnestness and vivid demonstrations. Concerning the botanical excursions around London which he supervised, evidently in imitation of his former master, one who attended them writes enthusiastically as follows: "They were holidays of delight and fruitful sources of information to a large and appreciative class of pupils. Many were the little tricks that were occasionally played upon this delightful old man, but the more tricks the more pleased was he; while his encyclopædic knowledge of our wayside plants and flowers, his unfailing good-nature, and old-fashioned courtesy always ensured the true respect even of the most mischievous." In 1863 he was chosen to fill the important post of Dean of the Faculty of Medicine at King's College, and in this office he was a *persona grata* to an eminent degree to his colleagues, as well as beloved by the students he had to rule. He continued in this office for twenty years, and his retirement both from it and the chair of botany was accompanied with the respect and regrets of all associated with him. He received a testimonial from his old pupils on that occasion (and there was no doubt whatever of the genuine cordiality which inspired the gift), and was elected Emeritus Professor of his subject, having been previously made an honorary Fellow of the College. He added much to the literature of his favourite subject both by numerous papers and by his well-known "Manual of Botany." He was intimately associated with the Pharmaceutical Society as Professor of Botany and Materia Medica, as a Fellow of the Linnæan Society and a member of the council, and as Vice-President of the Royal Botanic Society, before which for many years he gave an annual course of lectures. It will be long before his memory will be forgotten at King's College.

He will be known to posterity rather as a teacher and a compiler than as an original worker in botanical science. He was emphatically not of the new school of botanists, who are acquainted with all the theories on the most recondite points of physiology, but to whom the names of the commonest wild flowers are sometimes unknown. His botany was that of the field and of the pharmaceutical museum. Always a popular lecturer, the chief scenes of his teaching were King's College,

the Pharmaceutical Society, and the Gardens of the Royal Botanic Society in Regent's-park. As a student of the Pharmaceutical Society Mr. Bentley obtained the prize in botany in the year 1842; in 1849 he was appointed lecturer on that science, and in 1852 lecturer on materia medica to the Society, holding both positions until 1888. His practical lectures on botany to the students were delivered in the lecture-room of the Regent's-park Botanic Gardens, which contain probably the finest collection of economic plants in existence. From 1852 to 1858 he also gave occasional lectures to the Fellows of the Royal Botanic Society. In 1866 he presided over the British Pharmaceutical Conference at Nottingham, and in 1867 over that at Dundee. Since 1889 he had been Vice-president of the Royal Botanic Society. Mr. Bentley's most important contributions to botanical literature are his "Manual of Botany" and the "Medicinal Plants" published in collaboration with Dr. Trimen. The former was first published in 1861 and is now in its fifth edition. It is distinguished from all other botanical text-books by the extent and value of its information on the economic products derived from the various natural orders, especially those connected with pharmacy. Bentley and Trimen's magnificent "Medicinal Plants," in four large octavo volumes with coloured plates, will always be an invaluable work of reference to the botanist and the pharmacologist, of which the pharmaceutical portion was written entirely by Bentley. He was truly a man of most genial and kindly nature, and will be greatly missed by a large circle of friends and pupils.

WILLIAM KEBBELL, M.D. EDIN., M.R.C.P. LOND.

WE regret to announce the death of Dr. Kebbell, the late medical officer of health of Hove, which occurred at his residence, 21, Brunswick-place, Hove, on Saturday, Dec. 30th, 1893. Dr. Kebbell, who was born in 1820, and had therefore reached the age of seventy-three at the time of his death, received his medical education in Edinburgh, of which university he graduated as M.D. in 1843. After serving a period as house physician in the Royal Infirmary of that town he became M.R.C.P. Lond., and established himself in Brighton, later removing to Hove, where he practised with much success, and in both of which places, although failing health had for more than four years compelled him to cease from active participation in public business, his memory will long be kindly cherished. In 1874 he was appointed medical officer of health of Hove, a post which he filled to universal satisfaction for fifteen years. He also took a keen and active interest in the affairs of the Sussex County Hospital, of which institution he was the senior physician at the time of his death. His literary contributions were precisely what would be expected from a man successfully filling the position of physician to a municipal authority. He wrote a treatise upon "Diseases of Towns" and a volume on "The Climate of Brighton," upon which latter subject, in special relation to phthisis and drainage systems, he more than once wrote in our columns.[1] Dr. Kebbell had been in poor health for some months and during the last six weeks of his life was confined to his house, where he was assiduously attended by Mr. Furner and nursed by his wife and only daughter. The cause of death was an internal malignant growth.

THOMAS MARSHALL WILKINSON, F.R.C.S. EDIN.

MANY of our readers will hear with regret of the death of Mr. Thomas Marshall Wilkinson, who died on Dec. 24th, 1893, at Grantham, in his fifty-first year. His medical training was received at St. Thomas's Hospital, for which institution he always retained a great affection, and where he was very popular. Soon after taking the qualifications of L.R.C.P. and L.R.C.S. Edin. in 1870, he was appointed house surgeon to the Lincoln General Dispensary. He then commenced practice in that city, was appointed surgeon to the dispensary, and shortly afterwards joined Mr. C. Bracke as partner in the firm of Bracke and Wilkinson. On the death of Mr. Broadbent in 1877 Mr. Wilkinson was elected to the vacancy thus caused in the staff of the County Hospital and for many years performed the duties of that appointment with great ability and success, until failing health led to his retirement in 1890. He was for a long period acting surgeon to the 1st Volunteer Battalion of the Lincolnshire Regiment. In 1887 he was elected Sheriff of the city of Lincoln and filled the office with great distinction. He was well known as a Freemason, and held high provincial rank. In 1877 he became a Fellow of the Royal College of Surgeons of Edinburgh. As he was universally esteemed for his many excellent qualities of mind and heart, his retirement from practice was much regretted by a large circle of patients and friends, and by none more than by those members of the profession who were accustomed to look to him for advice and assistance in difficult cases. The esteem in which he was held was manifested by the large number of his former colleagues and others who attended at the interment. His kind, bright, genial manner, self-sacrifice, thoughtfulness for others, and unostentatious charity will be remembered as long as those who knew him still survive. Mr. H. P. Berry of Grantham was unremitting in his attention during his long illness.

[1] THE LANCET, April and October, 1862.

Medical News.

UNIVERSITY OF LONDON.—The following passed the B.S. examination for honours:—

SURGERY.

FIRST CLASS.

Carwardine, Thomas (Scholarship and Gold Medal), Middlesex Hospital and University College.
Jaffé, Charles Samson (Gold Medal), St. Thomas's Hospital.
† Aldrich-Blake, Louisa B., London School of Medicine and Royal Free Hospital.
Low, Vincent Warren, St. Mary's Hospital.

SECOND CLASS.

Whitehead, Arthur Longley, Yorkshire College.
{ Davies, Howard Owen, St. Bartholomew's Hospital.
{ Johnson, William John, Guy's Hospital.
{ Kelson, Wm. Harry, M.D., London Hospital.

† Obtained the number of marks qualifying for a Gold Medal.
N.B.—The bracket indicates equality of merit.

THE HYGIENIC AND DEMOGRAPHIC CONGRESS.—The programme of the eighth session of this congress, which is to be held at Budapest, is understood to be now definitely arranged. The opening meeting will take place on Sept. 2nd, the previous day being devoted to the reception of visitors and preliminary arrangements. The proceedings of the various sections will occupy the remainder of the week. At the conclusion of the congress excursions will be arranged, one of which will include a visit to Constantinople and another to Belgrade. The secretary of the executive committee of the approaching congress is Dr. Paul F. Moline, but a president has not yet been appointed.

THE PASTEUR INSTITUTE.—The record of the work done in November last, as given in the *Annales de l'Institut Pasteur* for that month, is as follows. The number of persons under treatment for the prevention of hydrophobia was 129, the great majority of whom were French; 5 were bitten by animals proved by experiment to be rabid, 89 by animals declared to be in the same condition by the certificate of veterinarians, whilst in 3 cases the bites were inflicted by animals only suspected of being rabid. In 109 cases the bites were inflicted by dogs, in 17 cases by cats, and in 1 case each by a horse, a sheep, and a pig. No deaths were reported as having occurred during the month of persons who had been under treatment previously.

INSANITARY PREMISES IN SOUTHWARK.—The owner of some premises in the Borough was summoned a few days ago before the magistrate sitting at the Southwark Police-court for failing to comply with an order from the sanitary authority to put the premises in question into a proper state of repair. The evidence of the sanitary inspector revealed a state of things which called loudly for interference, inasmuch as the occupier had a workshop in which some fifty hands were employed, most of whom were girls, whilst the accommodation provided for them consisted of a water-closet destitute of a supply of water. Dr. Herron, the medical officer of health for the district, gave his testimony in support of the statement of the inspector, and the magistrate made an order for the execution of the work necessary to be done to render the premises habitable in accordance with the provisions of the Public Health Act of 1891.

ROYAL BRITISH NURSES' ASSOCIATION.—A course of six lectures on Elementary Anatomy will be delivered by Mr. W. J. Walsham, F.R.C.S., at 3, Hanover-square, London, W., on Wednesday evenings in January, and begun on Wednesday, Jan. 3rd, at 8.30 P.M. Admission is free to members of the association. Tickets can be obtained from the secretary, 8, Oxford Circus-avenue, Oxford-street, W., by non-members, price 5s. for the course, or payment of 1s. may be made at the door for admission to each lecture.

Parliamentary Intelligence.

THE HOUSE OF COMMONS.

FRIDAY, DEC. 29TH, 1893.

The Flash Point of Mineral Oils.

THIS question was raised by Mr. Caine, who asked the Home Secretary if his attention had been drawn to certain published statements as to the alleged danger attending the use of mineral oils having a flash point of 73°, and if the Government had any intention of raising the scale to 100°.—Mr. Asquith said that the alteration suggested could not be effected without legislation, and that such alteration must be based upon careful inquiry conducted by experts. As to certain resolutions referred to by the hon. gentleman as having been passed by the Glasgow and Manchester sections of the Society of Chemical Industry, condemning the present system and recommending the raising of the flash-point, no official information had hitherto been received.

MONDAY, JAN. 1ST, 1894.

Small-pox and Vaccination.

Sir Walter Foster, in reply to a question put by Mr. Hopwood as to the circumstances attending the death by small-pox on Dec. 26th, 1893, of an assistant nurse engaged in the Birmingham Workhouse, said that information of the event referred to had been received by the Local Government Board from the medical officer of the workhouse, who stated that the nurse was appointed on Sept. 20th last; that at that date she presented on one of her arms two cicatrices; that she admitted she had never been revaccinated; and that she declined to submit to the operation when urged to do so by the medical officer. Furthermore, it would appear that the mother of the deceased had no knowledge of her daughter having been revaccinated.

TUESDAY, JAN. 2ND.

Anthrax.

In reply to questions put by Major Rasch and Mr. Jeffreys on this subject, Mr. Gardner said he regretted to say that several outbreaks of the disease had recently occurred at Grays, in Essex, and on inquiry he had learned that the carcase of an animal affected with anthrax was taken to a slaughter-house and partly dressed before the inspector or the local authority was made aware of the facts. The right hon. gentleman understood that a few animals were pastured in fields where diseased carcases had been buried, the responsibility for which act lay with the owners of the animals. The steps to be taken to prevent the spread of the disease were set forth in the Anthrax Order of 1892, and the execution of the order rested with the local authority.—In reference to another question, Mr. Gardner said he had been informed of the death of a cow from anthrax at Cliddesden on the 5th ult., but no further appearance of the disease had been reported. The information at present available would hardly warrant the inference that the germs of anthrax might lie dormant for so long a period as ten years, as in a case mentioned by one of his questioners. The probabilities were, he thought, that in that instance infection was re-introduced from elsewhere.

BOOKS ETC. RECEIVED.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.
The Journal of Microscopy and Natural Science: The Journal of the Postal Microscopical Society. Editor, A. Allen, Hon. Sec., P.M.S. Vol. III. Third Series. Vol. XII. Old Series. 1893. pp. 448.

BENDER, M., Albany, New York.
A Treatise on Medical Jurisprudence of Insanity. By E. C. Mann, M.D. 1893. pp. 420.

CASSELL & Co., London.
Annals of Surgery. Edited by L. S. Pilcher, A.M., M.D., of Brooklyn, and others. Vol. XVIII. July to December. 1893. pp. 656.

EDE, DEARBERG & Co., Queen-street, Cheapside, London.
Handbook on the Use of Compressed Oxygen. By Kenneth S. Murray, M.I.Mech.E. 1893. pp. 82.

EYRE & SPOTTISWOODE, London.
The Art of Living in Australia. By P. E. Muskett. pp. 431.

KEGAN PAUL, TRENCH, TRÜBNER & Co., Charing-cross-road, London.
The Elements of Hypnotism. The Induction of Hypnosis, its Phenomena, its Dangers and Value. By R. Harry Vincent. Illustrated. 1893. pp. 270.

LANGLEY & SON, George-street, London, N.W.
The Report of the Department of Pathology of University College, London. Together with a collection of Papers and Extracts published from the Laboratory. Vol. II. December, 1893.

L'AUTEUR, C., Paris.
De l'Assistance Publique et des Hôpitaux jusqu'au XIXème Siècle. Plan d'un Hôtel-Dieu. Attribué à Philibert Delorme par C. Tollet. 1889.

LEWIS, H. K., Gower-street, London, W.C.
A Practical Treatise on Materia Medica and Therapeutics. By R. Bartholow, M.A., M.D., LL.D. Eighth Edition. 1893. pp. 820. Price 21s.

LYON, J. B., Albany, New York.
State of New York. State Commission in Lunacy. Fourth Annual Report. October, 1891, to September, 1892. 1893. pp. 427.

PELL, W. J., New York.
World's Fair: Jamaica at Chicago. An account descriptive of the Colony of Jamaica, with Historical and other Appendices. Compiled by Lieutenant-Colonel the Hon. C. J. Ward, Honorary Commissioner for Jamaica. 1893. pp. 95.

REEVES & TURNER, Chancery-lane, London.
A Legal Handbook for the use of Hospital Authorities. By L. S. Bristowe, M.A Oxon., Barrister-at-law. 1894. pp. 151.

SAUNDERS, W. B., Philadelphia.
Syllabus of Lectures on the Practice of Surgery. By N. Senn, M.D., Ph.D., LL.D., Chicago. 1894. pp. 221.
Saunders' Question-Compends. Nos. 8 and 9. Essentials of Practice of Medicine. By H. Morris, M.D. 1894.

SIMPKIN, MARSHALL, & Co., London.
The After-treatment of Cases of Abdominal Section. By Christopher Martin, M.B. Edin., F.R.C.S. Eng. 1894. pp. 48.

SMITH, ELDER, & Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. XXXVII. Masquerier-Millyng. 1894. pp. 453.
Transactions of the Pathological Society of London. Vol. XLIV. Comprising the Report of the Proceedings for the Session 1892-93. 1893. pp. 242.

SOCIÉTÉ D'EDITIONS SCIENTIFIQUES, Paris.
Guide Sanitaire des Troupes et du Colon aux Colonies. Par le Dr. Villedary. 1893. pp. 178.
Supplément du Guide Pratique des Sciences Médicales pour 1893-94. pp. 439.

SWAN SONNENSCHEIN & Co., London.
George Chapman. A narrative of a Devoted Life. By R. S. With a preface by A. Gurney, M.A. Illustrated. 1893. pp. 276.

UNWIN, T. FISHER, Paternoster-square, London.
Stammering: its Nature and Treatment. With Appendix on Voice-production in Speaking. By Emil Behnke. Fourth edition. pp. 31. Price 1s.

WOOD, WILLIAM, & Co., New York.
Text-book of Nervous Diseases. By Charles L. Dana, A.M., M.D. Second edition. Illustrated. 1893. pp. 549.

Spätformen Hereditärer Syphilis in den Oberen Luftwegen: von Dr. Gerber (W. Braumüller, Wien und Leipzig, 1894).—Menton Médical-Pittoresque: par W. Francken (Société d'Éditions Scientifiques, Paris, 1894).—Archivio Italiano di Otologia, Rinologia e Laringologia; vol. 1, 4. Fascicolo (Carlo Clausen, Palermo, 1893).—Relation d'une Epidémie de Choléra: par MM. A. Mairet et F. J. Bosc (Charles Boehm, Montpellier, 1893).—The Lady Doctor: A Farce in one Act: by Em. Dee (A. Stenhouse, Glasgow, 1893), price 6d.—Unsere Kranken und Schwachen müssen so gut wie irgend möglich ernährt werden: von Dr. K. Francke (B. G. Wilhelm, München, 1894).—Results of Aseptic Celiotomy: by W. H. Wathen, A.M., M.D. Reprint from the American Journal of Obstetrics, September, 1893.—Le Massage Vibratoire et Électrique des Muqueuses: par Dr. Paul Garnault (le Paris) (Société d Éditions Scientifiques, Paris, 1894), pp. 156.—A Study of the Temperature in twenty-five cases of General Paralysis of the Insane: by F. Peterson, M.D. (New York), and Charles H. Langdon, M.D.; reprint, 1893.—Diary for 1894; Sanitary Record (the Proprietor, 2, Lexham-gardens, London, W.).—Souvenir of the Inns of Court Hotel (Bemrose & Sons, Old Bailey, London).—Magazines for January: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society), The Phrenological Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ASHBY, ALFRED, M.B.Lond., F.R.C.S., has been reappointed Medical Officer of Health to the Reading Town Council.

ALNER, A., M.B., C.M.Edin., has been appointed Joint Parochial Medical Officer, Thurso.

BARTON, SAMUEL, M.D. Dub., M.Ch., L.M., has been appointed Medical Officer of Health for St. Faith of the Norfolk Union, vice Taylor, resigned.

BEARBLOCK, P. ESDAILE, M.R.C.S. Eng., L.R.C.P. Lond. (Guy's Hospital), has been appointed Assistant House Surgeon to the Royal Albert Hospital, Devonport, vice A. C. F. Smith.

BODY, H. M., M.R.C.S., has been reappointed Medical Officer of Health for Crediton.

BOND, BERTRAM W., M.B., B.S. Durh., M.R.C.S., L.R.C.P., L.S.A., has been appointed Assistant House Surgeon to the Norfolk and Norwich Hospital.

BRINTON, ROLAND D., B.A., M.D. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the Grosvenor Hospital for Women and Children, Vincent-square, Westminster.

BULL, S. A., M.R.C.S., L.R.C.P., has been appointed Junior House Surgeon to the Westminster Hospital.

CAMERON, W. S., M.B., Ch.B. Edin., has been appointed a Medical Officer for the Mildura Shire, Victoria, Australia, vice Abramowski, resigned.

CLARK, F. W., M.B. Durh., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the Lowestoft Urban Sanitary District.

COCKER, ARTHUR, L.D.S. Irel. and Edin., has been appointed Dental Surgeon to Shibden Industrial School, Halifax.

COLEMAN, JAMES B., M.B., M.Ch., B.A.O., R.U.I., has been appointed Visiting Physician to the Children's Hospital, Temple-street, Dublin, vice R. P. Baxter, M.D., deceased.

DIXSON, THOMAS, M.B., Ch.M. Edin., has been reappointed Honorary Aurist and Oculist to the Deaf, Dumb, and Blind Institution, Sydney, New South Wales.

GIMSON, W. DOUGLAS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Springfield Sanitary District of the Chelmsford Union, vice W. G. Gimson.

HODGSON, THOMAS, M.B., Ch.B. Melb., has been appointed a Health Officer for the Fern Tree Gully Shire, Victoria, Australia, vice Simpson.

HOLMDEN, F. A. A., M.A., M.B., M.C., has been appointed Surgeon-Captain to the Bechuanaland Border Police.

HOOPER, F. L., M.R.C.S. Eng., has been appointed a Health Officer for the New Mornington Shire, Victoria, Australia.

JONES, F. F., M.R.C.S., D.P.H. Lond., has been reappointed Medical Officer of Health for the Combined Sanitary Districts of the Llanfyllin Union.

JOHNSTONE, W. H., L.M.S. Durh., has been appointed a Health Officer for the Narracan Shire, Victoria, Australia.

MASSON, WILLIAM, M.B., C.M. Aberd., has been appointed Medical Officer for the Cottingham Sanitary District of the Sculcoates Union.

MCILRAITH, CHARLES H., M.A., M.B., C.M. Glasg., has been appointed Resident Medical Officer to the Hospital for Diseases of the Throat, Golden-square, W.

MONTGOMERY, E. H., M.B., B.Ch. Dub., has been appointed Medical Officer for the Mallow Union Infirmary, vice Greene.

O'BRIEN, P. K., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Resident Medical Officer to the Hospital for the Insane, New Norfolk, Tasmania, vice Crampton, deceased.

O'CONNOR, JAMES, M.R.C.S. Eng., L.R.C.S. Irel., has been appointed Medical Officer for the Clonmellon Dispensary.

REID, R. S., L.R.C.P., L.R.C.S. Edin., has been appointed Surgeon-Major to the New Zealand Artillery Volunteers, New Zealand.

REMPRY, LEONARD, M.A., M.D. Cantab., M.R.C.P., has been appointed Assistant Lecturer on Obstetric Medicine and Assistant Obstetric Physician to St. George's Hospital.

SINCLAIR, WALTER W., M.B. Aberd., has been reappointed Senior House Surgeon to the Birmingham and Midland Eye Hospital, Birmingham.

STANFORD, W. B., M.R.C.S., L.R.C.P., has been appointed Assistant Medical Officer to the Islington Infirmary, Upper Holloway.

STATHERS, G. N., L.R.C.P., L.M. Edin., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer to the Brackley Rural Sanitary Authority.

TEMPLE, L. D., M.B., C.M. Glasg., has been appointed Medical Officer of Health for Saddell.

WARD, G. SMITH, L.R.C.P., L.R.C.S. Edin., L.S.A. Lond., has been appointed Medical Officer and Public Vaccinator for the Stevenage District of the Hitchin Union, vice G. Hill Smith, F.R.C.S.

WARD, G. S., L.R.C.P., L.M., L.R.C.S. Edin., has been reappointed Medical Officer for the fifth sanitary district of the Hertford Union.

WATTERSON, J. W., M.B., C.M. Edin., has been appointed Medical Officer of Health to the Morecambe Local Board.

WILKINSON, W. C., M.D. Lond., M.R.C.P., M.R.C.S., has been appointed Honorary Physician to the Deaf, Dumb, and Blind Institution, Sydney, New South Wales.

WOOD, W. R., L.D.S.R.C.S., has been appointed Dental House Surgeon to Guy's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CHESHIRE COUNTY ASYLUM, Upton, near Chester.—Junior Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging and washing.

CITY OF MANCHESTER.—Medical Officer of Health for the City of Manchester. Salary £850 per annum. Applications to the Town Clerk, Town Hall, Manchester.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Rooms, coals, and lights provided.

GENERAL INFIRMARY AND DISPENSARY, Doncaster.—In-door Dispenser. Board, lodging, and washing provided.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physicians.

LIVERPOOL INFIRMARY FOR CHILDREN, Myrtle-street.—House Surgeon. Salary £85 per annum, with board and lodging.

LIVERPOOL NORTHERN HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with residence and maintenance in the house.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, N.E.—Physician.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Lecturer on Materia Medica and Pharmacy. Stipend £50 a year.

ST. SAVIOUR'S UNION, Surrey.—Temporary Medical Officer for the Seventh District. Salary at the rate of £180 per annum, inclusive of all extra fees, with the exception of those payable in respect of the quarterly returns of lunatics. Applications to the Clerk, Clerk's Offices, John-street West, Blackfriars-road, E.C.

SALFORD ROYAL HOSPITAL.—House Surgeon for the Pendleton Branch Dispensary. Salary £80 per annum, with board and apartments.

Births, Marriages and Deaths.

BIRTHS.

FERGUSON.—On Dec. 31st, at 26, Woodland-road, New Southgate, N., the wife of R. Bruce Ferguson, M.A., M.B., B.C. Cantab., &c., of a daughter.

LAMBERT.—On Dec. 23rd, at Balgowan, Newland, Lincoln, the wife of Frederick Samuel Lambert, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

PAUL.—On Nov. 25th, 1893, at Sendai, Japan, Margaret, wife of Maurice Eden Paul, M.D., M.R.C.S., L.R.C.P., of a daughter.

POWELL.—On Dec. 27th, at Round Hill Villa, Brighton, the wife of Walter A. Powell, M.R.C.S., L.R.C.P. Lond., of a son.

ROBINSON.—On Dec. 29th, at Talfourd House, Camberwell, S.E., the wife of H. Shapter Robinson, L.R.C.P. Edin., M.R.C.S., of a daughter.

TWEED.—On Dec. 29th, at Upper Brook-street, Grosvenor-square, the wife of Reginald Tweed, M.D., of a daughter.

WELLS.—On Dec. 28th, at Belsize-park, N.W., the wife of Poulett Wells, M.B., of a son.

WHITTAKER.—On Jan. 1st, at the Royal Hibernian Military School, Phœnix Park, Dublin, the wife of Deputy-Surgeon-General J. H. Whittaker, of a son.

MARRIAGES.

BINDLOSS—BRUCE.—On Jan. 2nd, at Christ Church, Lancaster-gate, Arthur Henry Bindloss, B.A., B.C., M.B. Cantab., M.R.C.S., L.R.C.P. Lond., of Harrow-on-the-Hill, to Lucy Veronica, daughter of the late Colonel Edward Bruce, Royal Artillery.

EMMET—CHASEMORE.—On Jan. 1st, at St. Peter's Church, Croydon, John William Emmet, M.R.C.S., L.R.C.P. Lond., to Amy, third daughter of the late Henry Chasemore, J.P., of Croydon.

LAWS—LUMBY.—On Dec. 27th, at the Parish Church, Grantchester, by the Rev. Dr. Merriman, Rector of Freshwater, and the Rev. G. Weigall, Vicar of Holy Trinity, Lambeth, and the Rev. E. Godfray, Vicar of Grantchester, William George Laws, F.R.C.S. Eng., of Sherwood Rise, Nottingham, son of W. G. Laws, City Engineer, Newcastle-on-Tyne, to Helen Maria, daughter of the Rev. Dr. Lumby, Lady Margaret Professor of Divinity in the University of Cambridge.

PRITCHARD—WESTROPP-DAWSON.—On Jan. 2nd, at St. Mary Abbot's, Kensington, George Eric Campbell Pritchard, M.A., M.B., of Gloucester-terrace, Old Brompton-road, to Marian Elizabeth, second daughter of Captain Westropp-Dawson, D.L., J.P., of county Wexford.

DEATHS.

BROWN.—On Dec. 30th, at Gloucester-place, Edinburgh, James Kemp Brown, M.B., C.M., B.Sc., aged 28.

FORBES.—On Aug. 14th, at sea, Charles Frederick Forbes, M.B., C.M., second son of the late Charles Forbes, M.D., Fleet Surgeon, R.N., aged 36 years.

GULL.—On Jan. 2nd, at 2, Gloucester-street, Portman-square, Susan Anne, Dowager Lady Gull, widow of the late Sir William Gull, Bart, M.D., aged 74, after two days' illness.

KEBBELL.—On Dec. 23rd, at Brunswick-place, Brighton, William Kebbell, M.D. Edin., M.R.C.S. Lond., aged 73.

MARSHALL.—On Dec. 31st, suddenly, from an accident, near Wastwater, Arthur Milnes, aged 41 years, Professor Owens College, Manchester, and second son of W. P. Marshall, Birmingham.

RYOTT.—On Dec. 27th, at Northbrook-street, Newbury, Frederick Elliott Ryott, M.D., F.R.C.S., and J.P., and C.C. for Berks, aged 59 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, January 4th 1894.

	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rainfall.	Remarks at 8.30 A.M.
Dec. 29	30·63	S.W.	43	42	48	44	42	—	Overcast
,, 30	30·69	S.E.	35	34	43	40	32	—	Overcast
,, 31	30·59	S.W.	26	F.	—	40	25	—	Overcast
Jan. 1	30·37	E.	40	38	49	41	16	—	Overcast
,, 2	30·18	N.E.	37	36	49	39	35	—	Cloudy
,, 3	30·53	N.E.	29	F.	38	32	27	·01	Cloudy
,, 4	30·26	E.	26	F.	43	27	25	·09	Snowing

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), (St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3 3) P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.). St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1 30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Great Northern (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2 30 P.M.), Great Ormond-st (9.30 A.M.).

THURSDAY.—St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.) London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-sq. (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.) Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.).

SATURDAY.—St. Bartholomew's (1.30 P.M.), Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9 15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY.—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Mr. W. Anderson: Case of Multiple Ankyloses of the Joints of both Lower Extremities, with Muscular or Cutaneous Atrophy.—Dr. P. Abraham: Observations on the use of Thyroid Gland in the Treatment of Diseases of the Skin.

ODONTOLOGICAL SOCIETY (40, Leicester-sq., W.C.).—8 P.M. Annual General Meeting. The President's Valedictory Address. Election of Officers for the year. Mr. J. H. Mummery: Dr. Vicentini's Recent Publications on the Common Origin of the Bacteria of the Mouth.

TUESDAY.—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Dr. H. Howship Dickinson: Albuminuric Ulcerations of the Intestines.—Mr. Jonathan Hutchinson, jun.: Abdominal Section for Intestinal Obstruction due to Hydatid Cysts.

WEDNESDAY.—LARYNGOLOGICAL SOCIETY OF LONDON (20, Hanover-square).—5 P.M. Annual General Meeting. Dr. Brosner: (1) Osseous Nasal Obstructions removed by Cutting Trephine; (2) Aseptic Laryngeal Syringes.—Dr. Percy Kidd: (1) Recurrent Papillomata of Larynx twice operated on by Thyrotomy; (2) Angioma of Larynx. Mr. L. A. Lawrence: (1) Hypertrophy of Posterior Faucial Pillars; (2) An Intra-laryngeal Mirror.—Dr. Scanes Spicer: (1) Multiple Laryngeal Papillomata removed from a Child of Eight Years; (2) Papilloma of Uvula.—Mr. W. R. H. Stewart: Carcinoma of the Œsophagus.—Mr. Charters J. Symonds: (1) A Doubtful Laryngeal Case; (2) Diffuse Syphilitic Laryngitis.—Dr. Watson Williams: Epithelioma of Soft Palate. Annual Dinner (Café Royal, 7.15 P.M.).

HUNTERIAN SOCIETY.—8.30 P.M. Dr. Fletcher Beach: Sporadic Cretinism.—Mr. Openshaw: Twenty-two Consecutive Cases of Amputation of the Breast.

THURSDAY.—NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY (Great Northern Central Hospital, Holloway-road, N.).—8.30 P.M. Dr. Remfry: On the Use of Ergot. Dr. Beevor: A case of Cerebral Tumour.

FRIDAY.—CLINICAL SOCIETY (20, Hanover-square, W.).—Dr. Soltau Fenwick: Acute Phthisis following Destruction of Mucous Membrane of the Stomach by Corrosive Fluids.—Dr. W. J. Tyson: A case of Suppurating Hydatid of the Liver opened through the Chest.—Dr. J. W. Washbourn and Dr. E. W. Goodall: Cases of Membranous Inflammation of the Throat during Scarlet Fever.—Dr. Hale White: Diphtheritic Peripheral Neuritis causing Sudden Death.

LECTURES AND ADDRESSES.

TUESDAY.—ROYAL INSTITUTION.—3 P.M. Prof. Dewar: Air, Gaseous and Liquid.

WEDNESDAY.—SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—3 P.M. Dr. R. Thorne-Thorne: Diphtheria, its Causes and Prevention.

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

THE QUINZE-VINGT HOSPITAL FOR THE BLIND IN PARIS.

A DAILY CONTEMPORARY publishes some statistics of interest in connexion with the treatment of the blind as carried out in the above-named hospital, a new detached ward of the infirmary in association with which was opened last week by the Minister of the Interior, supported by other gentlemen holding high official positions in the State. The President of the Court of Cassation, after having detailed some results of the labours of a committee appointed to study the best means of preventing the spread of ophthalmia in schools, made a statement to the effect that in the infirmary in question 12,934 patients had been treated since the institution was opened eleven years ago, with a success equivalent to 92 per cent. Dr. Pephau, whose method of treatment had been attended with such remarkably satisfactory results, conducted his distinguished visitors over the new ward, in which were displayed the novel appliances and apparatus which had been provided by the Association for the Relief of the Blind, the president of which is M. Spuller. The occasion served to elicit marks of enthusiastic admiration for the benevolent enterprise shown by Dr. Pephau, who is regarded as occupying in regard to the Braille School for the Blind a position similar to that held by Dr. Campbell at Norwood.

Dr. R. R. Rentoul.—The communication has been received: probably the document, if it exists, could be obtained on application to the secretary of the college.

H. A. Y.—The course to which our correspondent refers cannot be approved and might result in serious consequences.

Mrs. C. Holligan (Surrey).—We regret we cannot give the information which our correspondent requires.

F. H. P.—No student can be registered before he has reached the age of twenty-one.

"THE TITLE OF 'DOCTOR.'"

To the Editors of THE LANCET.

SIRS,—One of your correspondents refers to the M.D. of the Royal University of Ireland as an "ordinary degree"—that is to say, a mere qualifying degree, such as those of Edinburgh, Durham, or Cambridge (for which the course of study is practically the same as that of the Conjoint Boards)—as distinguished from an "honours degree," such as that of the London University. I may say that there are no such "ordinary degrees" granted by any university in Ireland. There are, I believe, eleven universities in the United Kingdom which grant medical degrees. In only four of these—viz., Oxford, Dublin, London, and the Royal University of Ireland—is the course of study longer than that required for the licence of the Conjoint Boards. The degrees of

these universities are "honours degrees"; the other seven are merely qualifying degrees. The Universities of Oxford and Dublin require their graduates to possess a degree in arts, and therefore their degrees have been called "a gentleman's degree" (this term is not of my coinage; I believe a man can be a gentleman without possessing a degree in arts). The University of London insists on a severe matriculation examination, which is probably equal to an arts course of one year, and its preliminary scientific is a severe examination. The Royal University insists on a year being spent in the study of mathematics and classics subsequently to the matriculation examination, so that its arts course is quite equal to that of the London University, and I do not think that its other examinations are less difficult. With the exception of the London and Royal Universities, all the universities grant the degree of M.D. to M.B.'s of three years' standing, without examination, or at least with only a nominal examination. The London and the Royal Universities alone require an examination for the M.D. degree. Of the severity of that examination your readers can judge from the fact recorded in your pages a few weeks ago that 75 per cent. of the M.B.'s who present themselves for it are "plucked." I regret to say that I cannot claim for the Royal University that it grants "a gentleman's degree" in the same way that Oxford does; but I do claim for it that its degree is quite equal to the M.D. of the London University, with which it is practically identical. As to the complaint of your correspondent that those who possess it do not write R.U.I. after the M.D., I may say that it is not because the degree is an inferior one, but because they find it does not pay. They know from sad experience that in the competition for appointments "no Irish need apply" if suitable English or Scotch candidates are opposed to them. As your correspondent puts it, "more prestige attaches" to the University of Cambridge, and poor old Ireland gets the kick every time.

I am, Sirs, yours truly,

Jan. 1st, 1894. PAT.

To the Editors of THE LANCET.

SIRS,—Your correspondent "L.R.C.P. Lond., M.R.C.S. Eng., &c." exhibits the common English prejudice and ignorance about Irish affairs when he implies that the M.D.R.U.I. is an ordinary degree and does not stand on the same footing as the M.D. London. Both in the extent of the curriculum required and in the stringency of the examinations the medical degree of the Royal University of Ireland is fully equal to that of the London, and superior to any other degree or qualification in the United Kingdom. The amount of preliminary arts education required is greater than that required by any British examining body except the University of Oxford. A student cannot enter for the preliminary scientific until at least two years after matriculation (one spent in the study of arts and one in science). In London University he can enter for this exam. after one year, or in some cases after six months. The shortest possible time in which the M.B. can be taken is six years from matriculation, and not more than one in twenty take it in the minimum period. Only the best students in the Irish medical schools attempt to obtain this degree. The rejections here are greater than at any other examining body in the United Kingdom, sometimes amounting to more than two-thirds of the candidates. A large number of those who obtain the M.B., have previously taken a degree in arts. "L.R.C.P. Lond., M.R.C.S. Eng., &c." seems to be confusing the Royal University with the old Queen's, to which it bears about the same relation that the London University does to the Conjoint Board.

I am, Sirs, yours faithfully,

Jan. 2nd, 1894. M.A., M.B., B.CH. R.U.I.

To the Editors of THE LANCET.

SIRS,—On reading the correspondence in THE LANCET on the title of "Doctor," I could not help involuntarily exclaiming "Strange such difference should be 'twixt Tweedledum and Tweedledee." On reference to "Burke" I find M.D.'s rank high socially, and universities according to the date of their charter. I am an M.D. (Univ. St. And.), but though proud of my ancient university with its glorious past, I always considered it was my duty to ornament its degree, instead of *vice versâ*. On reference to my M.D. diploma I find I am styled "Doctissimus vir." I have two sons in the profession, one M.B. (Durham), the other L.R.C.P. (Lond.), but if I were ill I should send for both, because I know them both to be kind and careful practitioners.

"Life is often froth and bubbles:
Two things stand like stone—
Kindness in another's troubles,
Courage in your own."

Let us all bear in mind these words of an Australian poet and "go and do likewise."

I am, Sirs, yours truly,

Norfolk. M.D.

To the Editors of THE LANCET.

SIRS,—I beg to ask your correspondent, "L.R.C.P. Lond., M.R.C.S. Eng., &c.," whether his college has not for many years been granting a diploma (L.R.C.P. Lond.) which entitled the holder to practise in sanitation and act as medical officer of health without any examination or even curriculum in that subject? Was he any the less legally qualified to practise in that department of medicine? Your correspondent must remember that medicine includes all branches of the healing art. Colleges of physicians have undoubtedly erred in the past in not examining in all branches, but they have now rectified their error. Their old licentiates, however, should be placed under no disabilities on that account. The diploma of a college of physicians is a complete qualification in surgery, midwifery, and sanitary science, since these three are merely branches of (and are included in) medicine.

I am, Sirs, yours truly,

Dec. 26th, 1893. A LICENTIATE (Dub., 1885).

THE MODE OF CONDUCTING CORONERS' INQUESTS IN THE UNITED STATES.

THE system in vogue until recently in New York has given so much dissatisfaction that the Academy of Medicine in that State has for some time been seeking means by which an improvement might be effected in the method heretofore adopted in ascertaining the cause of death in suspicious cases. The Medico-Legal Society has, it appears, joined in the crusade, so that it is probable a reform in the system referred to will ere long be brought about. We are indebted to the *New York Medical Journal* for a copy of the number in which are printed the resolutions passed at a recent sitting of the Academy bearing on this subject. After specifying the qualifications necessary in a coroner, who should be a medical man of established character and be possessed of sound and extensive information in anatomy, pathology, toxicology, and other branches of forensic medicine, the Academy calls the attention of the approaching Convention to the admirable system of medical examiners which the State of Massachusetts has substituted for the coroners' system hitherto in vogue, and urges the enactment of similar laws in New York.

M. N.—The amended report of the committee of the Association of Fellows of the Royal College of Surgeons received approval at a meeting of the committee on Nov. 1st last, and a copy of the report will be found in THE LANCET of Nov. 11th.

Obstetrician.—Dr. Boxall's article on the Mortality of Childbirth, published in THE LANCET of July 1st, 1893, contains statistics which will probably be of assistance to our correspondent in reference to the information of which he is in pursuit.

"LOCOMOTOR ATAXY TREATED BY PHOSPHATIC INJECTIONS."

To the Editors of THE LANCET.

SIRS,—I cannot, with justice to myself, allow the letter of Dr. Cagney to remain unanswered, especially as he has adopted the unusual course of attempting to dispute the diagnosis of the case of locomotor ataxy described by me in the columns of THE LANCET, though he had never seen the patient, and was in total ignorance of the concomitant symptoms; he has thus ventured to doubt its genuineness in spite of the written opinions of the late Sir Andrew Clark, Dr. Cuylits, Secretary of the Academy of Medicine of Belgium and late President of the Psychological Society of Brussels, and myself. It appears to me strange that a physician of Dr. Cagney's status should thus have expressed himself in the absence of a knowledge of the real facts. It is not customary, in describing cases in a medical journal, to weary the readers by narrating the various symptoms of the complaint; suffice it to say that in the patient in the one now under discussion there existed all the leading characteristics of locomotor ataxy: absolute want of all power of coördination in movements, gait very tottering, walking with legs wide apart and with the support of two sticks, vision at times much affected, numbness in extremities, and a general feeling of insecurity, with increasing debility, jerkings in both limbs being involuntarily. This condition had been progressing for two years; the original cause was considered to be a fall in the hunting field. The speech was also affected, there being great hesitation in expressing words. This latter symptom I have often seen in such cases. Now, Sir, the study of locomotor ataxy is one which for many years I have taken much interest in, and the distinction between general paralysis and locomotor ataxy happens to be the very subject that I chose for my thesis read before the University of Cambridge many years ago previously to receiving my ordinary medical degrees. This was read and approved twelve years before Dr. Cagney had entered the profession, and now he has had the questionable taste to come forward as a judge concerning a case he has never been consulted in and never had an opportunity of investigating. I thank him, however, for drawing my attention to the word "atteint," which is in the original certificate, and by a misprint appears in your issue of Dec. 16th as "atteinte." Fortunately the case of recovery I have mentioned is not an isolated one. I have seen several cases in which the improvement has been most marked. One case was that of a youth aged twenty-five, lately a patient at the National Hospital for Paralysis, under the care of Dr. Anderson. Is the diagnosis to be again doubted here? The records of the case appear on the books of that institution. The gait was here so much affected that people were accustomed to shout after him in the street, thinking he was drunk. After the twenty-fifth injection he improved very much, his sight, which had more or less completely left him, becoming much better, he being able to see across the road, and I met him out walking by himself after the fiftieth injection, all want of coördination having completely left him. The sight remains *in statu quo*, though better than when first he was hypodermically treated. On presenting himself at the hospital he was asked what he had been doing to get so well. Another patient brought to me from Paris, and now undergoing treatment there under my direction, is a terrible case, attended by excruciating sufferings, acute hyperæsthesia, pains in the back &c. After the thirty-eighth injection his medical man writes to me: "Now as to result, his pains in his back and legs are certainly much relieved, and he walks and sleeps better." What is laid down by myself and by those who have had experience in this treatment is that,

if after the fiftieth injection improvement in any way shows itself, then persevere in the treatment. I could quote other cases, being in correspondence in many similar ones. I am promised results by those medical men who are giving the new remedy a fair trial, and it is my intention to publish such for the benefit of the profession and for, I hope, the relief of those suffering from the complaint.

I am, Sirs, your obedient servant,

FORBES WINSLOW.

Devonshire-street, Portland-place, Dec. 16th, 1893.

P.S.—With regard to the statement that I was in doubt and received other opinions, I state that, as the case was a very important one, involving serious liabilities, the question of giving up country residences, selling a large stud of horses, &c., I would not take the sole responsibility of advising, and therefore suggested the two consultations alluded to. Anyone in active consulting practice would have done the same. The expression of the late Sir Andrew Clark as to the "tabes being incurable" occurs in a letter to me not given as an ordinary certificate; but, however, it is sufficient to endorse the opinion I had previously given. I never entertained for one moment a possible doubt as to the nature of the case; it was too characteristic.

Mr. Alfred Chignell.—The Secretary of the Society of Anæsthetists is Dr. Dudley Buxton, 82, Mortimer-street, Cavendish-square, to whom application should be made.

Mr. Ashby Peele (Gower-street).—We are afraid that very little can be done to prevent the objectionable practice to which our correspondent alludes.

Mr. W. Pilkington.—(1) Yes.—(2) The course suggested is an admirable one.—(3) Yes.

HEROIC MIDWIVES.

To the Editors of THE LANCET.

SIRS,—The following is, I think, of some interest. A woman was attended by a certificated midwife, and all went well for a week, when the nurse attempted to introduce a ring pessary to support the womb, as she thought that there was prolapse of the organ, and the woman had had it (the pessary) in use during part of her pregnancy for the purpose of support. The next day the midwife noticed a fetid odour from the vaginal discharge. She therefore gave a weak carbolic injection and deliberately squeezed the womb with her hand in order, as she said, to empty it. The result was that some more fetid discharge came away. A few hours later the patient had a rigor and was in a state of collapse. The midwife asked me to see the patient. I went, and found the unfortunate woman's temperature 103° F., pulse 130, the abdomen enormously distended and very tender, with decided dulness on the right side of the abdomen, and great pain on palpating, especially in that region. Fortunately, with vigorous treatment, within a week the patient was out of danger and has made a good recovery. The facts appear to speak for themselves—viz., that the woman had a narrow escape from death from peritonitis, due to the meddlesome interference of the midwife.

I am, Sirs, yours truly,

Dec. 23rd, 1893. M.D. EDIN.

"EHRLICH'S TEST."

To the Editors of THE LANCET.

SIRS,—In answer to the letter of "Surg.-Capt., A.M.S." in THE LANCET of Dec. 23rd, asking for information as to the formula and mode of using Ehrlich's test for enteric fever urine, I quote the following description from Moore's "Eruptive and Continued Fevers," p. 499: "Two solutions are used—A, a saturated solution of sulphanilic acid in dilute hydrochloric acid (1 in 20); B, a 0·5 per cent. solution of sodic nitrite in distilled water. A is prepared by making up 50 c.c. of hydrochloric acid to 1000 c.c. with water, and adding sulphanilic acid to saturation. To 200 c.c. of this mixture, 5 c.c. of a ½ per cent. solution of sodium nitrite are added. The resulting solution is added to the urine in equal parts, when a deep red-rose colouration is produced. Ehrlich has recently recommended that five to six times the volume of absolute alcohol should be added to the fluid to be tested, and the reagent, prepared as above, should be added drop by drop to the filtrate. The urine thus treated should be rendered alkaline with strong ammonia." Unfortunately the reaction is sometimes given in other maladies, especially in cases of tuberculous disease.

I am, Sirs, yours sincerely,

JAMES E. M'NAUGHT, Surgeon-Lieutenant, A.M.S.

Curragh Camp, Kildare, Dec. 23rd, 1893.

To the Editors of THE LANCET.

SIRS,—In answer to "Surg.-Capt., A.M.S." I have pleasure in giving the details of this test. I am sorry I did not answer his query last week, but I had mislaid my notes on the subject. The necessary reagents are: (*a*) a saturated solution of sulphanilic acid in dilute (1 in 20) hydrochloric acid; (*b*) a 5 per cent. solution of sodic nitrite in distilled water. Both these solutions must be fresh (especially the latter), as they cannot be depended on for more than a week at the longest. In using the test, about 25 parts of (*a*) solution are added to 1 of (*b*). Mix with this an equal part of suspected urine and render alkaline with strong ammonia. A dark-red colour results if the urine be from a patient suffering from enteric fever.

I am, Sirs, yours faithfully,

LOUIS E. STEVENSON, M.B.CANTAB.

Temple Sowerby, Penrith, Dec. 31st, 1893.

THE EIDERDON RUG.

MESSRS. BOYD AND CO., of Royal-avenue, Belfast, have submitted to our notice their "Eiderdon" rug. The material of which it is made is stated to be the purest and finest wool and to be admirably adapted for coverlets, bed-jackets, dressing-gowns, and other garments useful to invalids and delicate persons. The sample submitted to us is an excellent specimen of woollen manufacture, and combines the desirable qualities of lightness, warmth, and a cheerful and pleasing appearance to the eye.

KNITTED GOODS.

MESSRS. FLEMING REID AND CO. of Greenock have submitted to us specimens of their manufactured knitted goods, wools, hosiery and serges. The goods are made so as to allow of free ventilation without at the same time impairing in any way the heat-retaining qualities of the vestments. The garments are stated to be manufactured from wool which has been purified from all foreign matter. The clothing, though warm and well ventilated, is light and comfortable.

Brighton Parade, Blackpool.—We fail to see how there could be any affection of the auditory nerve appreciable to the tuning-fork tests that did not cause more or less deafness, and think the case must be wrongly stated. Full particulars of the methods of testing should have been given.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—I have just noticed that two errors—one of which is rather important—have found their way into the otherwise very accurate report (considering its shortness) which you give of a paper of mine on the Value of the Bacteriological Diagnosis of Asiatic Cholera in THE LANCET of Dec. 23rd, 1893, p. 1572. In the left column, third line from the bottom, instead of "spores" read *sports*. ("In these the striking feature was the ease with which various *sports* of the comma bacillus could be obtained from the same case.") In the right column, eighteenth line from the top read *Blackstein* instead of "Blackstein." I think the first error is so important that I would be much obliged to you if it were mentioned in the next number of THE LANCET.

Believe me, Sirs, yours very truly,

SHERIDAN DELÉPINE.

Harefield, Bowdon, Cheshire, Dec. 28th, 1893.

A Student.—The two chief universities of the United States are Harvard and Yale, and at either of these centres of learning ample facilities for gaining medical instruction may be obtained. With regard to the British colonies our correspondent would do well to consult our Students' Number, published on Sept. 2nd, 1893.

General Practitioner.—The annual report of the Local Government Board for Ireland, published a few weeks ago, contains the data referred to.

ANTIPYRIN.

To the Editors of THE LANCET.

SIRS,—On adding nitrous spirit of ether (half a drachm) to an aqueous solution of antipyrin (ten grains to one ounce), after an evanescent yellowish colouration a beautiful green solution is in the course of a few minutes formed. From this, in from twelve to twenty-four hours dark-green crystals begin to be deposited on the sides of the containing vessel in rosette-like clusters. Can you or any of your readers inform me what is the nature of the green crystalline body thus formed, and whether and in what doses it is likely to be harmful to patients taking it?

I am, Sirs, yours faithfully,

Dec. 30th, 1893. H. E. G.

Dr. A. J. Richardson.—The report of this meeting has not reached the editorial department of THE LANCET.

X. Y. Z.—No. We are not aware of any case in which the decision has been in favour of such a course.

COMMUNICATIONS not noticed in our present issue shall receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Reading Mercury, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Sanitary Record, Leeds Mercury, City Press, Yorkshire Post, Liverpool Daily Post, Times of India, Builder, Bristol Mercury, Pioneer Mail, Architect, Sunday Times, Tit Bits, Madras Times, Glasgow Evening News, Scottish Leader, Morning Advertiser, Coventry Herald, Echo, Liverpool Mercury, Dundee Advertiser, Sussex Daily News, East Anglian Times, Daily Graphic, Medical Record (New York), Hertfordshire Mercury, Guy's Hospital Gazette, Australian Medical Journal, Daily Chronicle, Local Government Journal, Kentish Mercury, Yarmouth Gazette, West Middlesex Advertiser, Surrey Advertiser, Englishman (Calcutta), Homeward Mail, Surrey Mirror, Hants County News, Leicester Daily Express, Morning, Public Health, Veterinary Record, Norfolk News, Brighton Gazette, Leicester Daily Mercury, &c., &c.*

Communications, Letters &c. have been received from—

A.—Mr. Henry Alston, Trinidad; Mr. T. M. Angior, Wigan, Astonished.

B.—Dr. H. C. Bastian, London; Dr. G. B. Busdraghi, Madrid; Dr. J. W. Bond, London; Dr. W. W. Baldwin, Florence; Dr. G. B. Browne, London; Mr. Alfred W. Bennett, London; Mr. T. B. Browne, London; Mr. C. Birchall, Liverpool; Mr. D. Bamanji, Bombay; Mr. J. Burnet, Edinburgh; M. Berthier, Paris; Mr. G. Barton, London; Messrs. Black and Co., London; Messrs. Burgoyne and Co., London; British Gynæcological Society, London, Hon. Secretary of.

C.—Sir J. R. Andrew Clark, Bart., Farnham; Dr. N. Christoff, Varna; Surg.-Lieut.-Col. D. D. Cunningham, Calcutta; Mr. H. W. Carter, Bristol; Mr. E. Walter Catford, Clifton; Mr. Alfred Chignell, Havant; Messrs. J. and A. Churchill, London; Messrs. A. H. Cox and Co., Brighton; Messrs. A. Cohen and Co., London; Messrs Thos. Cook and Son, London; Church Stretton Asylum, Medical Superintendent of; Chester County Asylum, Clerk of.

D.—Dr. Sheridan Delépine, Rowdon; Dr. W. J. Dewar, Arbroath; Mr. J. W. Dryland; Mr. R. Davis, London; Mr. R. Dawson, Worthing; Mr. Robert Dunthorpe, London; Mr. H. A. Dickson, London; Downham Market Gas and Coke Co., Limited, Secretary of; Doncaster General Infirmary, Secretary of; Despondent.

E.—Dr. W. Edmunds, London; Messrs. Evans, Sons, and Co., Liverpool; Evelina Hospital for Sick Children, Secretary of.

F.—Messrs. Fannin & Co., Dublin; Messrs. Farrer & Sons, Reading.

G.—Dr. R. Ritchie Giddings, Nottingham; Dr. T. Gash, Rochester; Dr. Gruber, Vienna; Mr. H. B. Greene, Knaphill; Mr. H. A. Giffard, London; Mr. E. H. Griffiths, Lampeter; Messrs. E. Gould and Son, London; Messrs. R. W. Greeff and Co., London; Messrs. C. Griffin & Co., Limited, London; Messrs. Henry Groves and Co., London; General Apothecaries' Co., London, Secretary of.

H.—Dr. W. G. Holloway, London; Dr. W. J. Howarth, Manchester; Dr. M. K. Hargreaves, London; Dr. J. G. Huizinga, Holland, Mich.; Dr. E. B. Hastings, London; Mr. W. D. Hayward, Croydon; Mr. J. Heywood, Manchester; M. Hoff, Hamburg; Mr. Murtaugh Houghton, Wolverhampton; Mr. N. Hannah, Ashton-in-Makerfield; Messrs. J. Halford & Son, London; Messrs. Horner & Sons, London; Messrs. Hodson and Garrett, London; Messrs. Harker, Stagg, & Morgan, London; Howard Association, London, Secretary of; Hornsey Gas Co., Manager of; Hamilton Association, London; Hart's Advertising Offices, London; H. E. G.

I.—Mrs C. Insull, Rhyl; Imperial Life Office, London, Sub Manager of; International News Co., London, Manager of.

J.—Messrs. W. and A. K. Johnston, Edinburgh; Messrs. Jones Bros. and Co., Wolverhampton.

K.—Dr. L. Kidd, Enniskillen; Dr. T. N. Kelynack, Manchester; Mr. F. B. Kershaw, Poulton-le-Fylde.

L.—Dr Henry Lupton, Douglas, Isle of Man; Mr. M. C. Lee, Thame; Rev. Dr. J. R. Lumby, Grantchester; Messrs. Lorimer and Co., London; Messrs. Lee and Nightingale, Liverpool; Liverpool Northern Hospital, Secretary of.

M.—Dr. H. Mallins Norfolk; Dr. Alex. Morison, London; Dr. A. Murison Cairo Dr. Main, London; Mr. E. Hooper May, London; Herren Martin, Reinberg and Co., Hamburg; Messrs. J. and R. Morley, London; Messrs. Mitchell and Co., London; Manchester Royal Infirmary, Secretary of; Manchester, Town Clerk of; M.S., M.B., B.Ch. R.U.I.; Mull, London; M.D., Norfolk.

N.—Mr L. F. Nash, London; Nemo; Netherby House, Wigan.

O.—Dr. S. Oliver, Gibraltar; Outsider.

P.—Dr. J. C. Pearce, Ramsgate; Dr. H. J. M. Playfair, London; Mr. Page, London; Messrs. Pomeroy and Tanner, Bristol; Messrs. G. P. Putnam's Sons, London; Piccadilly Association of Trained Nurses, London, Secretary of.

R.—Dr. R. R. Rentoul, Liverpool; Mr. Wingfield Roll, Leicester; Messrs. Richardson Bros. and Co., Liverpool; Ryde Gas Light Co., Engineer and Secretary of; Rotherham Hospital, Collector of; R. A. M.

S.—Dr. Heywood Smith, London; Dr. Allan Thos. Sloan, Edinburgh; Dr. Louis E. Stevenson, Penrith; Mr. H. Shrubshall, London; Mr J. B. Smith, London; Mr. H. W. Scriven, London; Mr. Philip de Santi, London; Messrs. J. Smith & Co., London; Messrs. Street Bros., London; Salford Royal Hospital, Secretary of; Smithsonian Institute, Washington, U.S.A.; St. Luke's Hospital, London, Steward of; Saarbach's News Exchange, Mayence; St. Raphael's Croydon, Secretary of; Sanitas Co., Limited, London, Managing Director of.

T.—Dr. W. Bezly Thorne, London; Dr Francis T. Taylor, Lewisham; Mr. Howard B. Turner, London; Mr. T. W. Twyford, Hanley; Mr. G. W. H. Tawse, Whitehaven; Mr. E. Toller, Rottingdean; Mrs. Tranter, London.

V.—Dr. Poupinel de Valence, Mauritius; Mr. J. W. Vickers, London.

W.—Dr. Jas. Wm. White, Glasgow; Dr. J. K. Watson, Norfolk; Mr. Percy C. Webb, London; Mr. S. Wand, Leicester; Messrs. J. Wright and Co., Bristol; Messrs. J. Woolley, Sons, and Co, Manchester; Wolverhampton General Hospital, Secretary of; W. D. H.

Y.—Yorkshire College, Leeds, Secretary of.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. H. Ashby, Manchester; Mr. J. R. Armstrong, Holywell; Mr. G. Arnison, Allendale Town; A. G. O. E., London; Advertiser, London; A. B. B., London; A. B. C., London.

B.—Dr. T. Lauder Brunton, London; Dr. Beake, Aberdare; Dr. S. K. Basu, Patna City, India; Mr. W. Brice, Edinburgh; Mr. G. F. S. Blacke, Latterworth; Mr. C. E. Bridge, Bournemouth; Mr. J. H. Musteed, London; Mr. W. L. H. Blenkarne, Leicester; Mr. S. H. Bham, London; Mr. G. S. Bowker, Newport, Mon.; Mons. Barrière, Bérald, Paris; Mr. W. S. Bates, Southsea; Messrs. Bennett Bros., Salisbury; Messrs. Burroughs, Wellcome & Co., London; Burntwood Asylum, Lichfield, Superintendent of; University College, Secretary of; B. C., Wigan; Bristol.

C.—Dr. Carmichael, Edinburgh; Mr. E. B. Chamberlain, Broadhempston; Mr. E. K. Collins, London; Mrs. A. Cameron, London; Messrs. F. C. Calvert and Co., Manchester; Messrs. J. Cleaver and Son, Crediton; Cato, London; Civis, London.

D.—Dr. P. J. Daly, Cork; Dr. W. Dale, Truro; Mr. A. H. Dawes, London; Mr. G. H. Dodsworth, London; Mr. M. S. Dalgleish, Newcastle-on-Tyne; Mr. Durganand Sen, Midnapore; Dunstable Friendly Societies Medical Association, Secretary of.

E.—Mr. H. T. Eve, London.

F.—Dr. D. Fennell, London; Dr. R. B. Ferguson, London; Mr. J. Franklin, Thaxted; Mr. D. B. Foley, Wombwell; Mrs. Fryer, London; Fides, London; Fortunatus, London.

G.—Dr. Gibson, Ashbourne; Dr. H. L. Gordon, London; Dr. J. Galloway, London; Mr. T. H. Garry, Plymouth; Mr. W. Gilyard, Bradford; Mr. G. B. Gorrick, East Hoathly; Mr. M. B. Gorman, Rowley Regis.

H.—Dr. J. A. Hutton, Scarborough; Mr. B. Hill, Oxford; Mr. T. M. Hocken, Dunedin, N.Z.; Canon Houghton, Kingsbridge; Messrs. Hooper and Co., London; H. B., London; H. L., London; H., London.

I.—Iota, London.

J.—Mr. J. S. Johnston, Bletchley; Mr. M. Jenkins, Cardiff; Mrs. Jones, Wilmslow; J., London.

K.—Mr. T. S. Keys, Gorseinon.

L.—Dr. J. Lloyd, Birmingham; Mr. B. Latham, London; Mr. A. H. Laver, Sheffield; Mr. C. Lund, Newcastle-on-Tyne; Mr. J. R. Luna, London; Rev. Dr. Lumby, Cambridge; Rev. A. J. Lyman, Brooklyn; Messrs. T. H. Lloyd and Co., Leicester.

M.—Dr. J. C. Maddener, Walsall; Dr. T. H. Morton, Sheffield; Dr. S. Mackenzie, London; Dr. J. MacConaghey, Allahabad; Mr. W. F. Milton, London; Mr. D. E. Murdoch, Folkestone; Mr. G. McCarthy, Kenmare, co. Kerry; Mr. J. Montford, Upton-on-Severn; Mr. H. W. Morriss, New Brompton; Messrs. McGeachy and Co, Glasgow; Maviabank House, Polton, Treasurer of; Medico, Bournemouth; M.O.H., London; M. R. C. S., London; Medicus, Bristol; Medicus, London.

N.—Mr. W. E. C. Nourse, Falmouth; Nod, London.

O.—Dr. J. W. Ogle, London; Ophir, London.

P.—Dr. W. J. Pettus, Southampton; Mr. J. Paxton, Burton-on-Trent; Mr. Peacock, London; Messrs. Parke, Davis and Co., London.

Q.—Qualified, London.

R.—Dr. M. A. Ruffer, London; Mr. R. Roberts, Ludlow; Mr. F. Rushmer, London; Ronsay Parochial Board, Poor-law Inspector of; Rus, London.

S.—Dr. H. E. Smith, London; Dr. W. C. W. Stain, Ackworth; Dr. D. McP. Stevenson, Bradford; Dr. T. Smith, Lancaster; Mr. F. Seager, Aberdovey; Mr. A. H. Sutherland, London; Mr. H. G. Shore, Banbury; Messrs. Salamon and Co., Rainham; Messrs. S. Smith and Co., London; Scholastic, Clerical and Medical Association, London, Secretary of; Sigma, London; Septimus, London.

T.—Prof. F. Trombetta, Messina; Mr. J. Thin, Edinburgh; T. H. J., Wrexham.

V.—Dr. G. Variot, Paris; Vinum, London; Victor, London.

W.—Dr. J. Wilson, Liverpool; Dr. A. W. B. Warde, Folkestone; Dr. A. E. Wells, Cuckfield; Dr J. R. Woodcock, Boston Spa; Dr. W. Winslow, Watlington; Mr. C. Williams, Bootle; Mr. S. Ward, Dudley; Mr. J. Westmorland, Manchester; Mr. S. Walker, Middlesbrough; Messrs. Wynne and Westwood, London; W. P., London.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year ..... £1 12 6 | Six Months £0 16 3

TO THE CONTINENT, COLONIES, UNITED STATES, INDIA, CHINA, AND ALL PLACES ABROAD ..... One Year 1 14 8

*** In consequence of the new postal arrangements, the Annual Subscription for India, China, and all foreign countries will now be reduced to £1 14s. 8d., instead of £1 16s. 10d. as formerly.

Post Office Orders and Cheques should be addressed to The Publisher, THE LANCET Office, 423, Strand, London, and crossed "London and Westminster Bank, St. James's-square."

ADVERTISING.

Books and Publications (seven lines and under)	£0	5	0
Official and General Announcements	0	5	0
Trade and Miscellaneous Advertisements	0	4	6
Every additional Line	0	0	6
Front Page per Line	0	1	0
Quarter Page	1	10	0
Half a Page	2	15	0
An Entire Page	5	5	0

The Publisher cannot hold himself responsible for the return of testimonials &c. sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

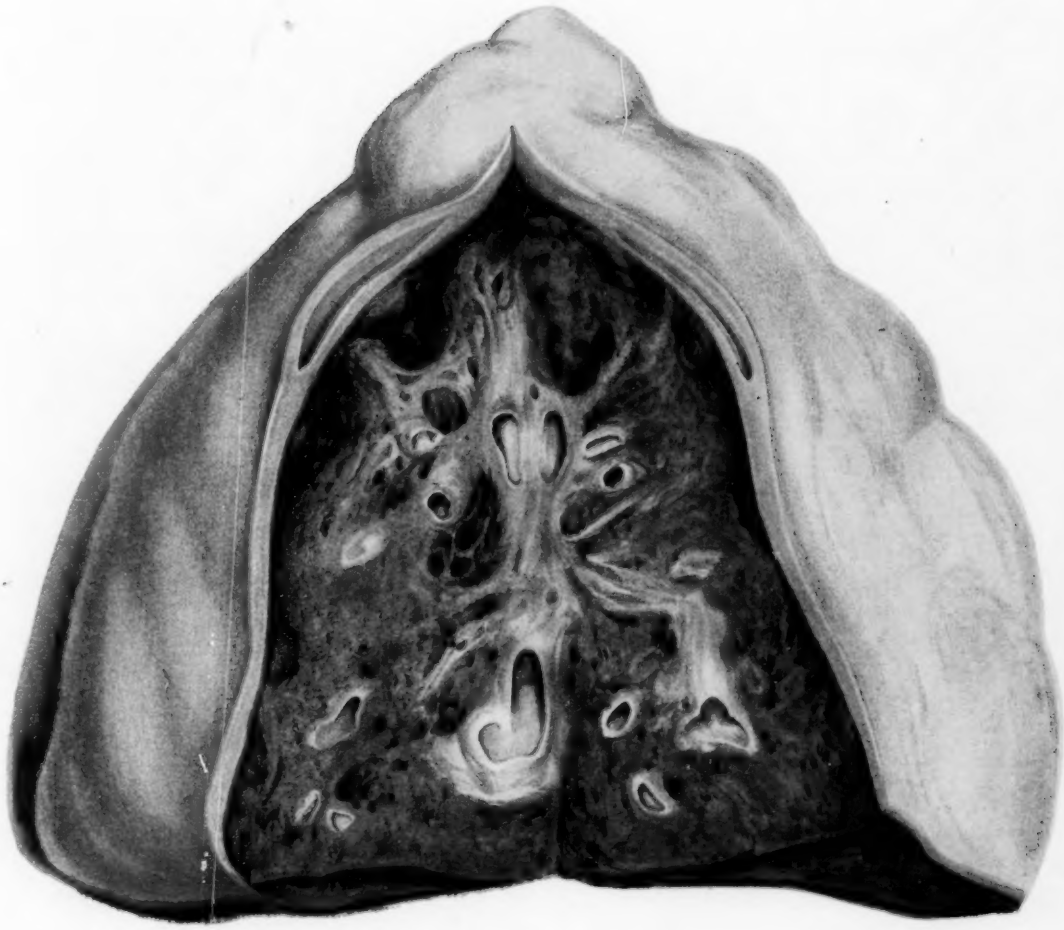
Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 68, Rue Taitbout, Paris.



TO ILLUSTRATE A LECTURE ON "THE TREATMENT OF FIBROID PHTHISIS," BY THE LATE SIR ANDREW CLARK.

CHARLES GRIFFIN & COMPANY, LIMITED, LONDON. DANIELSSON & COMPANY, CHROMO-LITH.